M3 FAQ Guide

Version 4.1.0

Information Technology Team

1Q, 2013

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Table of Contents

Revision History

Release Notes Ver 4.1.0

- All invalid links are fixed.
- WLAN roaming issue has been fixed by newest SCU version.
- Key Mapping section updated.
- UPM(User Power Mode) added for M3 Orange, M3 SKY and MM3.
- M3 Green and T can use different sleep conception as similar as UPM.

Release Notes Ver 4.0.4

- Added method of using WM5.0 for M3 SKY
- Added method of adopting WM5.0's IE style to higher version of WM.

Release Notes Ver 4.0.3

- Added GPRS connection setting Method through XML.
- RFID (UHF) support tag type added.
- Added CAB file install method for M3 GREEN with new CPU.
- Added Soft Key registry changing setting.
- Added note for 'How to obtail Rillog' section.

Release Notes Ver 4.0.2

- Added M3 SMART Key Customization (M3.ini, VisualINI, Registry methods)

Release Notes Ver 4.0.1

- Bluetooth Printer pairing method has been replaced.

Main Category	FAQ Topic
Bluetooth	Bluetooth Printer paring method has been replaced from MS-Stack base to Stone Street Stack
GPS	Note has been added

Release Notes Ver 4.0

- Fixed links and re-categorized some FAQ Topics as shown below.
- Added / Modified below FAQ topics

Main Category	FAQ Topic
Bluetooth	BT Stack Change
Keypad	MM3 Key Customization
	M3 ORANGE Key Customization
	M3 SMART WM Key Customization
OS	M3 SKY OS Update via USB in Windows 7
	M3 ORANGE OS Update via MicroSD card
	M3 ORANGE OS Update via USB Downloader
	M3 SMART OS Update via MicroSD card
	M3 SMART OS Update via USB Downloader
	External Memory Support
RFID	Tag type that RFID supports
Serial Communication	Supported Baud Rates
Software	M3 Series Compact Framework Version
	Digital Signature - Modified
	ReformatUtil for M3 SKY, MM3
WLAN	How to set different language on SCU

- Removed old / useless articles that do not apply to M3 PDAs anymore.

Release Notes Ver 3.1.1

- Fixed bugs: broken links, hidden pages.

Release Notes Ver 3.1

- Added below FAQ topics

Main Category	FAQ Topic
Input / Output	MM3 POGO Pin Description
OS	M3 ORANGE OS Update Manual (USB / SD)

- Combined common documents into one simplified version

Before	After (Merged)
WLAN Roaming	WLAN Roaming
Roaming between APs – Summit WLAN	

Release Notes Ver 3.0

- Added below FAQ topics

Main Category	FAQ Topic
GPS	Questions about GPS
	AGManager (GPS Application)

Input / Output	M3 ORANGE POGO Pin Description
Keypad	Key Mapping for M3 Products
	Key Input Type Recognition on M3 SKY, M3 ORANGE
	M3 SKY QWERTY Keypad Functions
	M3 T Key Settings
OS	OS Update via One-click Update (easy update)
	OS Naming Rule
Phone (GPRS)	Differences between EDGE and 3G
	GSM/GPRS Information
Scanner	Scanning Problem in RDP
WLAN	WLAN Setting
	WLAN Re-connection after Sleep Mode
	Ad-Hoc Mode in SCU

Release Notes Ver 2.0

- FAQ documents on Flash Disk applications such as ScanEmul, RfidEmul is removed from previous version of M3 FAQ Guide and released a separate Application Manual.

- GPRS category is changed to Phone (GPRS)

- Added below FAQ topics

Main Category	FAQ Topic
Battery	Overcharging Protection
Boot	Reboot
Bluetooth	BT Headset
	Zebra Printer
	Bluetooth Printing
Camera	Camera Button on M3 SKY
GPS	GPS Type of M3 SKY
Hardware	Device Identification
	SD Card Format
Input / Output	M3 GREEN POGO Pin Description
	M3 SKY POGO Pin Description
OS	Supported SD Capacity for OS Update
Phone (GPRS)	Roaming Frequency between 2G and 3G
	Dialing Window
	Phone Book Entry
	Ril Log
Scanner	Remote Desktop Connection
	Hotkey
Serial Communication	COM port Type
	Serial Port
Software	Digital Signature
	.Net CF Version
	Memory Allocation
	Preventing RDP Disconnection
	Keyboard Management
	ActiveSync

	Installation / Launching from Storage Card
	Disable MS Customer Feedback Message
	SMS Pop-Up Window
WLAN	SCU Profile Saving
	PAP / CHAP Set Up
	Summit WLAN Domain Change
	WLAN Roaming
	Wireless Issue
	SCU Update
ETC	Setting Date and Time through ActiveSync
	Background Image
	Backlight Timeout control

1. BATTERY

Common

Battery Management and Maintenance

You can maximize the battery life with a little bit of care. Since the batteries are chemical devices, it is important to keep the electron in it flowing occasionally. If the battery is stored in fully discharged state for a long period, it could fall into a deep discharge state. On the other hand, if the battery is stored in fully discharged state for a long period, the total battery capacity may be reduced. Please read the following tips to maximize the battery life.

1. PDA Settings

Turn off unnecessary functions - Functions such as Wi-Fi, Bluetooth, GPS, etc will drain more power from the battery. If you rarely use such functions, please turn off to save power. To turn off each function, assist the main manual.

Reduce brightness of the backlight - Brighter backlight will consume more power. Setting the backlight as low as possible is another way to save power. To adjust the backlight level, assist the main manual.

Enter suspend mode - Entering suspend (sleep) mode when you are not using PDA can increase the battery life. To enter suspend mode or to set auto-suspend mode, assist the main manual.

2. Charging Tips

The battery pack should be fully charged before you use the PDA for the first time. Within the acceptable temperature range, it will take approximately 4 hours to fully charge from deplete state using the supplied charging cradle.

Acceptable Charging Temperature Range

Charging Temperature Range	-20C (-4F) ~ 60C (140F)

Use correct battery and charger for your device - Use of incorrect battery or charger may degrade battery performance and reduce the battery lifespan.

Assign one charging cradle to each device - Sharing a charging cradle among users is a common practice. However, sharing the charger may cause the user to pick up a battery that may have not been fully charged. We recommend assigning a cradle to each device to make sure the battery is fully charged. Green LED indicated the battery is fully charged.

Charge the battery when prompted - You will get an audible alert with a pop-up message when the battery is low. Failure to charge the battery may consume all RTC power and system time will reset to default. When main battery is detached, the RTC battery will keep the system time information for as long as 5 minutes.

Use 2 batteries supplied alternatively - You can increase the battery lifespan by using 2 batteries alternatively. If you are carrying a spare battery, we recommend charging the spare battery up to about 80% of its full capacity. More batteries may be used for more reliability.

Clean the battery contact surfaces regularly - Dirty contact points are a main source of charging problems. Regular cleaning is required for optimal performance. When cleaning it, please use a soft cloth. Cleaning with liquid material is not recommended. (Pure alcohol may be used.)

3. Charge Cycles

Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced. A properly maintained battery can retain up to:

- 90% of its original capacity at 100 full charge and discharge cycle.
- 85% of its original capacity at 300 full charge and discharge cycle.
- 80% of its original capacity at 500 full charge and discharge cycle.

You may choose to replace your battery when it no longer holds sufficient charge to meet your needs.

We recommend replacing the battery if:

- The battery is more than 2 years old. The first 2 digits of the 4-digit serial number on the battery represent the year of manufacture and the other 2 digits represent the date of manufacture.
- The battery is used for 17 months in an environment where the battery is charged once a day.
- The battery is used for 10 months in an environment where the battery is charged more than once a day.

4. Troubleshooting

A weak battery can cause an error message to appear on your device. Before sending your product out for repair, please ensure the battery is working properly. Following are some common errors that may appear on your device:

Common Error Message

Error Message	Solution
Device is dead. (Display is blank or the unit will not power on)	Try to cold boot the terminal first. If this does not work, replace the battery with a known good battery.
Battery low message is popped up or the device goes off while booting.	The main battery is low. Please replace the battery with fully charged one. If this leaves the device without charging or replacing battery, the data can be lost.

Overcharging Protection

Main/backup battery overcharging protection

All M3 batteries are protected against overcharging.

- Back-up battery: Integrated PCM circuit / Cut off at 2.8V
- Main battery: Integrated PCM circuit / Cut off at 2.8V

Low Battery Warning Message

When 20% of full capacity is left:
Displays a message, 'Not enough battery', at the task bar.

When 10% of full capacity is left:
The caution message pops up several times. From this moment, the device consumes the 10% of charge to keep it alive. If all 10% is consumed, it enters sleep mode and uses the back-up battery. If all is consumed, the device is powered off and all data except in flash disk may be lost.

M3 Battery S/N System

Battery serial numbering system was changed for batteries produced after 11th Dec 2009 for internal management reason. However, it has been rolled back to the original system since Feb 2010.



*P/N and S/N are indicated inside the battery socket.

Original Battery Numbering System

- Batteries were recorded according to the manufacture date. Ex) 0906 means it was manufactured in June 2009.
- Problem - If batteries are stored in warehouse for a reasonably long time, the numbering system may lead the customers to misunderstanding. They might think the battery's guaranteed life (normally 6 months) time has been expired and induces unnecessary management.

Modified Battery Numbering System

- Use alphabet instead of numbers. Ex) AIL for batteries manufactured in Dec 2009.
- Using alphabetical serial number eliminates the problem of the original system.
- Effective since 11th Dec 2009.

	A	B	C	D	E	F	G	H	I	J	K	L	~Z
Production Lot	1st	2nd	3rd	4th									
Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	~
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cell Type	S	U											

Production Lot: Monthly Supply Lot
Year / Month: Continue to Z and start over
Cell Type: S: SDI U:SANYO

Ex) AILS refers to 1st production lot manufactured in Dec 2009 with SDI cell.

Current Battery Numbering System (July 2010)

- Current battery numbering system has been rolled back to the original system since Feb 2010 due to alteration in national KC certification.
- Battery serial numbers are recorded according to the manufacture date.

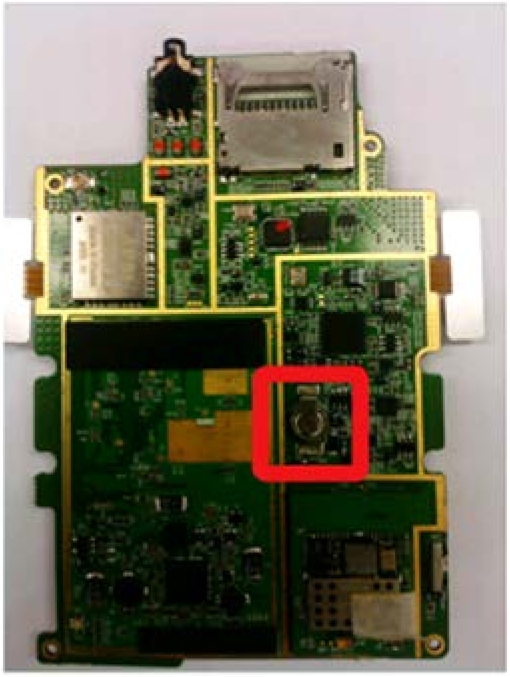
M3 SKY

M3 Backup Battery

Real Time Clock (RTC) Summary

A secondary backup battery is integrated in all M3 SKY terminals. The secondary battery is used to keep the time and date information while changing the main battery. However, its functionality varies according to its model and the version of main board.

In early models of MC-7XXXS, a small real time coin battery was included as shown on the below left picture.



<Old Version>



<New Version>

Left figure shows integrated (soldered) RTC coin battery and the right figure shows a detachable backup battery.

In main boards v1.1 (MC-71XXS), v2.1 and v2.2 (MC-75XX/77XXS), the coin battery is charged through system power. Hence, if the terminal is turned off by pressing the power button for 10 seconds, the system stops operating and consequently the coin battery is not working. Therefore, the RTC is reset.

To charge the coin battery, the main battery must be attached to the device AND the device is switched on. If the PDA is not switched on, the coin battery is not charging even if the main battery is attached. Moreover, placing the turned off terminal on the cradle will NOT charge the coin battery.

To prevent RTC reset, you must not turn off the terminal by pressing the power button for 10 seconds.

In main board v1.2 (MC-71XXS), the coin battery is charged through the main battery and it follows the main battery level. Hence, turning off the terminal by pressing the power button for 10 seconds will not reset the time information. But leaving the device at off state for longer than 5 minutes will reset RTC and GPS data because a fully charged coin battery is only able to keep RTC and GPS data for 5 minutes. This also implies that stored data will reset if the main battery is detached for longer than 5 minutes.

As improvement of the backup battery system is necessary, M3 Mobile re-designed the backup battery

system and it has been applied to the terminal when M3 Mobile adopted new Summit WLAN module. Below table describes the key differences between the previous M3 SKY terminals and M3 SKY terminals with the new backup battery system.

	M3 SKY (Samsung) RTC Coin Battery		M3 SKY (Summit) Backup Battery	
Main board version history	MC-71XXS	MC-75XX/77XXS	MC-71XXS	MC-75XX/77XXS
	v1.1 v1.2	v2.1 v2.2	v2.1	v2.3
Power off using the power button (long time)	RTC reset (v1.1) RTC and GPS satellite data kept for approx. 5 min (v1.2, 2.1, 2.2)		Keeps RTC and GPS satellite information up to 50 hrs	
Detaching the main battery from power on state	RTC kept for approx. 5 min		Auto sleep mode, force shut down phone	
Hard reset / Long reset	RTC reset		RTC reset	
Coin / Backup battery capacity	0.22 F (Capacitor)		200 mA	
Charging method	v1.1, v2.1, v2.2 - Attach fully charged main battery - Turn on the terminal v1.2 - Attach fully charged main battery		- Attach fully charged main battery	
Time taken to fully charge the coin / backup battery with fully charged main battery	Approx. 30 minutes		Approx. 30 minutes	

RTC Coin Battery

RTC Reset Causes and Prevention - M3 SKY with RTC Coin Battery

RTC coin battery is integrated in a few models of M3 SKY. The coin battery is used to keep the device alive while changing the main battery. By 'alive', we mean the device does not lose any information stored in the device including the time information. However, the device will go to sleep mode.

A fully charged RTC coin will keep the device alive for around 5 minutes. If the main battery is detached for longer than 5 minutes, the time information is lost.

Another scenario that the time information is lost is that when the PDA is completely powered off (turning off the device by pressing the power button for 10 seconds) for longer than 5 minutes. This is because when the device is completely powered off, the RTC coin battery is working to keep the time information and after 5 minutes, it is fully discharged and all the unsaved information will be lost.

To prevent RTC reset, DO NOT power off the device by pressing the power button for 10 seconds (except in the case of special event such as upgrading OS or clean boot) or detach the main battery from the device and leave the device for a long time. Current in the RTC coin battery is flowing when the device is completely powered off and it may result in RTC information loss. If you must detach the main battery for whatever reasons, please place the device on the cradle.

To charge the coin battery, the main battery must be attached to the device AND the device is switched on. If the PDA is not switched on, the coin battery is not charging even if the main battery is attached. When a fully charged main battery is attached to the device, it will take approximately 20 minutes to charge the coin battery.

RTC Reset if Power Button is pressed for 10 seconds

Old models of SKY have Real Time Coin battery as a back-up battery as shown below.



Ways to charge the battery vary according to the main board version.

For V1.1: Charged through CPU, and RTC is reset if the power button is pressed for 10 sec.



For V1.2: Charged through the main battery and follows the main battery level.

Fully charged back-up battery can keep the date information and GPS configurations for 5 to 10 minutes without the main battery.

2. BOOT

Common

How to Launch Boot Menu

M3 RED / GREEN - Does not support boot menu

M3 SKY - Turn off M3 SKY by pressing the power button for 10 seconds. Then while pressing the right directional button, turn on the device by pressing the power button.

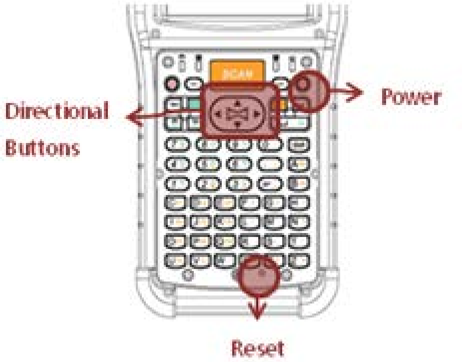
[MBOOT MENU]
1. Update
2. Format All
3. Device ID
4. Clean Boot - No
5. Factory Reset
Enter. Select
0. Exit (Boot)
MBoot
v3.1.3_[520Mhz/128MB]





MM3 - Turn off MM3 by pressing the power button for 10 seconds. Then while pressing the right directional button, turn on the device by pressing the power button. (Same as M3 SKY)

[MBOOT MENU]
1. Update
2. Format All
3. Device ID
4. Clean Boot - No
5. Factory Reset
6. Debug Serial - No
Enter. Select
Exit (Boot)



M3T - Turn off the device by pressing the reset button for approximately 5 seconds. Then press and hold the power button. Then turn on the device by pressing the reset button. The power button must remain pressed. When the screen fires up, release the power button and press it again.

[MC-6700]
1. OS Launch
2. USB Update
3. SD Update
4. Factory Reset
5. EBOOT Config



M3 POS - Turn off the device by pressing the reset button for approximately 5 seconds. Then press and hold the power button. Then turn on the device by pressing the reset button. The power button must remain pressed. When the screen fires up, release the power button and press it again. (Same as M3 T)

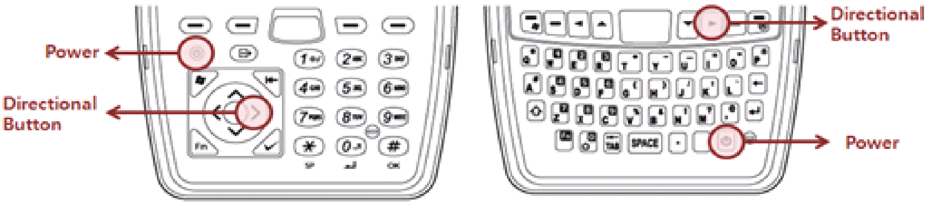
[M3 POS]
1. OS Launch
2. Factory Reset
3. USB Update
4. SD Update



Note that if the Boot and OS information are not compatible each other, then you cannot access to Boot menu.
Please refer "One-click Update" of OS section, if they are different**.**

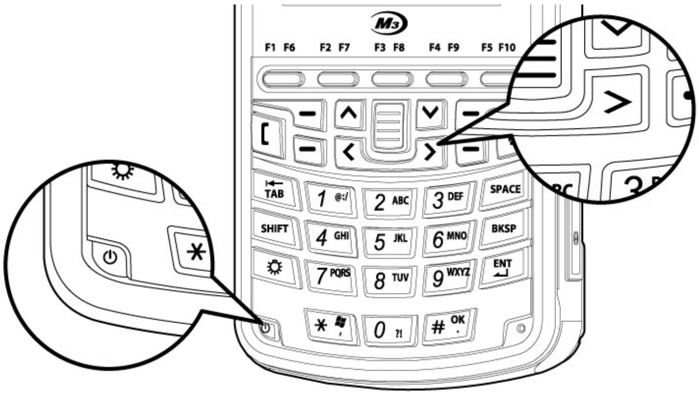
M3 ORANGE - Turn off M3 ORANGE by pressing the power button more than 10 seconds. Then press and hold the right navigation button and press the power button briefly.

[PBOOT MENU]
1. USB Update
2. SD Update
3. Clean Boot - No
4. Factory Reset - No
5. Debug Msg - No
6. Device ID
0. Exit



<Alpha-Numeric> <QWERTY>

M3 SMART WM - Turn off the device by pressing the power button for approximately 10 seconds.
Then, while pressing the right arrow button, press power button to enter the boot menu.



[BOOT MENU 1.0.2]
1) SD Download
2) USB Download
3) Clean Boot
4) Factory Reset
5) Device ID(UUID)
6) Debug Serial:[NO]
7) ALL Format

Select Number

0) Exit:Launch OS image

SAMSUNG-S5PC100 833MHz
RAM 256MB / ROM 512MB

Reboot While Changing Battery

When the main battery is detached, the device goes to sleep mode. During the main battery replacement, the backup battery is activated to keep the system alive.

However, if the back-up battery is empty or dead, the PDA does not have a backup power to keep it alive, result in restart of the PDA when the main battery is replaced.

M3 SKY

Summit Booting for the First Time

New M3 SKY MC-7xxS with Summit WLAN module has a backup battery rather than a RTC coin battery.

When booting the device for the first time, must reset the CPU by power-cycle before power it on. Without CPU reset, the device may not turn on due to low back-up battery which is discharged during shipping.

It is designed to act like that; not a faulty device.

To reset the CPU, please follow two steps below:

1. Attach fully charged main battery or connect the AC power cable to the device.
2. Press and hold the reset button for at least 5 seconds.



3. It will automatically reboot. Otherwise, press the power button.

3. BLUETOOTH

Common

BT headset

What type of BT headset is available for M3 SKY?

BT function has limitation in WM5.0 because of using MS stack. By upgrading WM5.0 to WM6.1 which is using StoneStreet1 stack, BT headset function is supported.

M3 Mobile has tested with products of Sony (HBH-DS970) and Plantronics (Voyager 520).



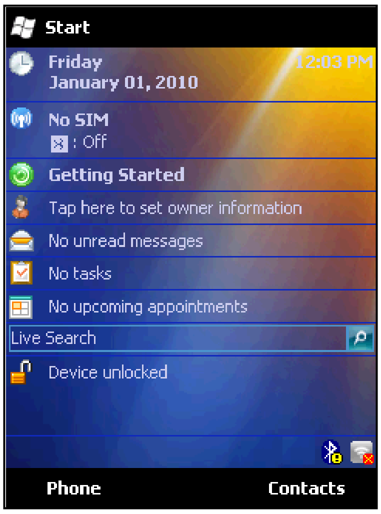
HBH-DS970

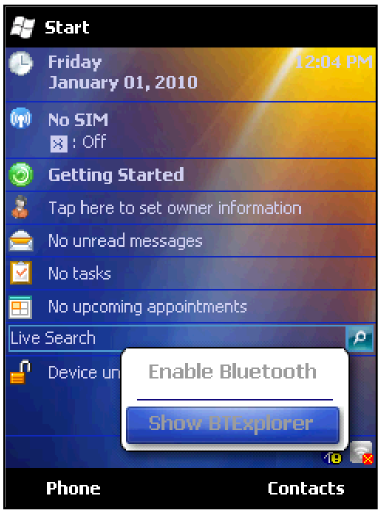


Voyager 520

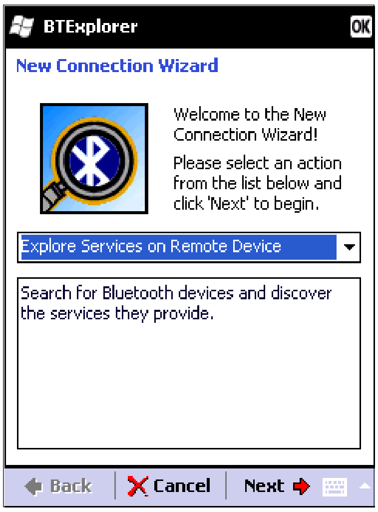
BT Printer

How to pair M3 with a BT Printer?





Choose service that willing to use and click '**Next**' to proceed, if it's first time searching for the Bluetooth devices, BTExplorer will search for available Bluetooth devices around, and it will produce '**Discovering Devices**' and '**Remote Name Discovery**' windows.



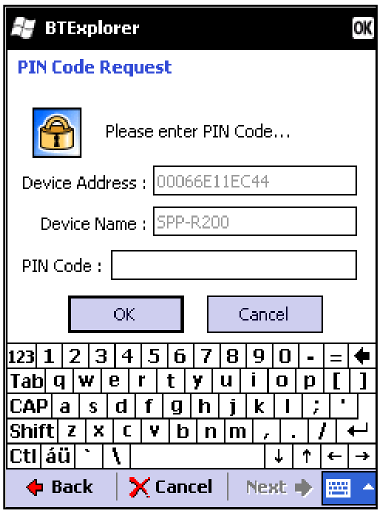


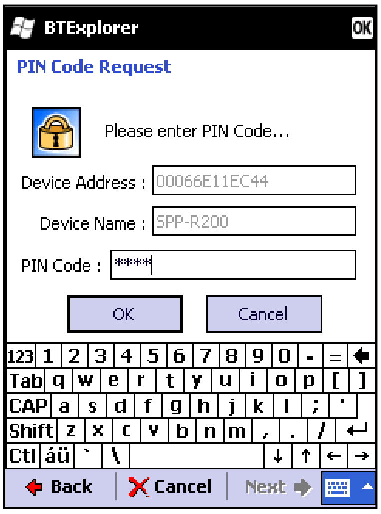


Once searching is complete, pop-up window will disappear and list of devices found will come up, from the list choose printer and click '**Next**'.

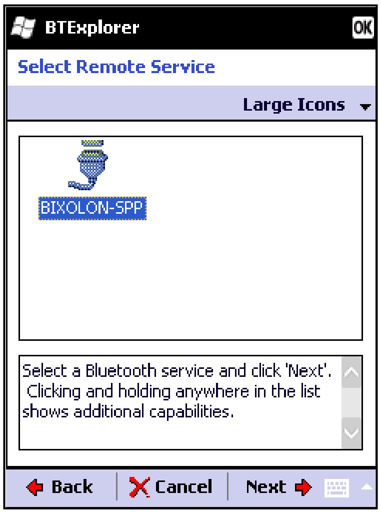


'**PIN Code Request**' window will pop-up, enter identical Pin Code that BT printer has.





If the Pin Code entered is identical with BT printer's Pin Code, '**Select Remote Service**' window will pop-up, choose service and click **'Next'.**

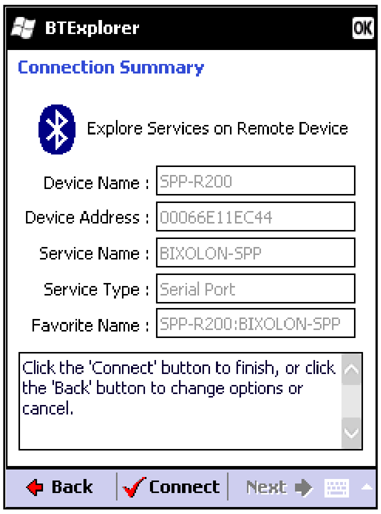


'**Connection Favorite Options**' window will pop-up, user can either check or edit device's name,

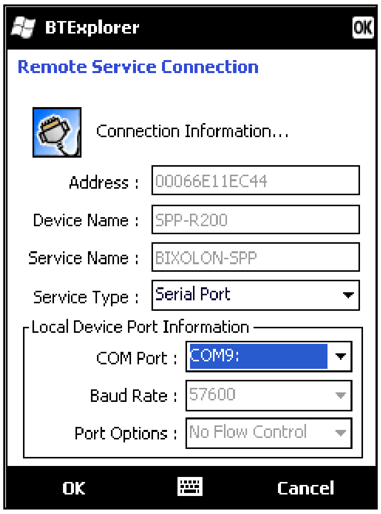
address and service name. Click **'Next'.**



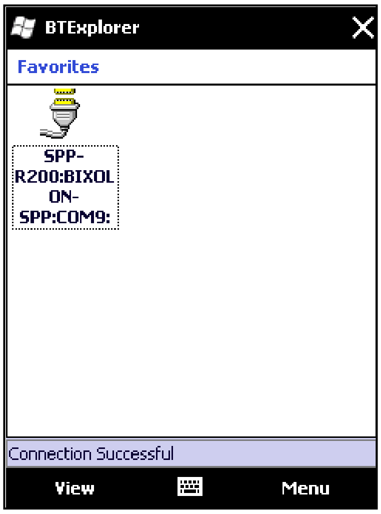
'Connection Summary' window that pop-up, allows users to check details of connection.

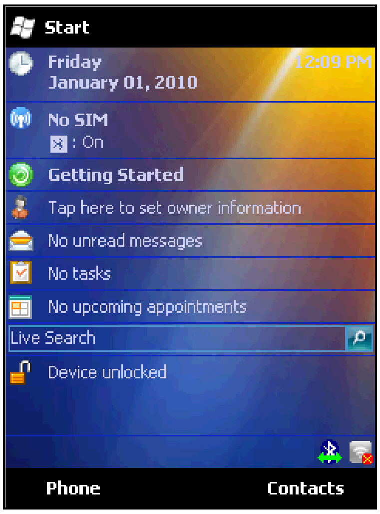


'Remote Service Connection' window will pop-up, user may change **'Service Type'** and **'COM Port'.**



Once the Connection is made, '**Favorite**' will be shows up, and Bluetooth icon will be change (**).**





BT Stack Change

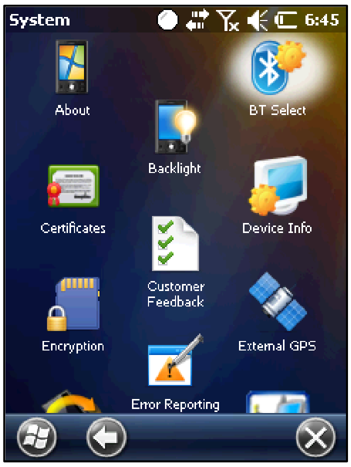
M3 SKY, MM3, M3 ORANGE, M3 SMART WM provides dual Bluetooth stacks: MS stack and StonstreetOne stack. User can choose the appropriate stack to suite their application. Factory default is set to use StonestreetOne stack.

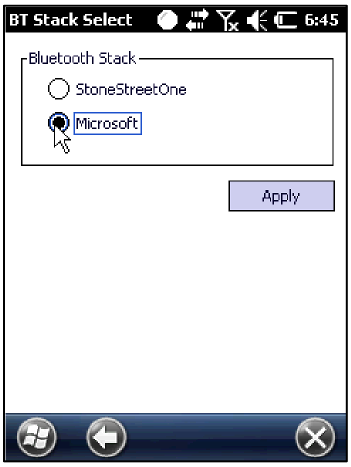
There are two ways for changing the Bluetooth stack.

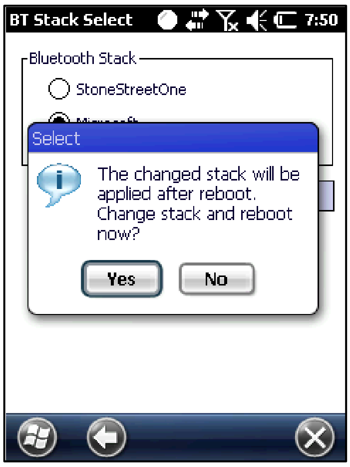
1. Using Windows Mobile GUI
2. Changing the Registry Value

Using Windows Mobile GUI

[Start] → [Settings] → [Systems] → [BT Select]







From the BT Select option, choose the stack that you want and make a soft reset to make the new BT stack affective.

Changing the Registry Value

Default stack can be chosen by modifying the registry.

Path: HKEY_LOCAL_MACHINE\Software\Mobilecompia\bluetooth
Key: Thirdparty
Value: 0 – MS Stack
1 – StonstreetOne Stack

Make sure you soft reset the device after stack change.

4. GPS

Common

GPS Type

What type of GPS is used in M3 PDAs? Does it support A-GPS?

M3 uses two different modules for GPS. Please refer below table for GPS chipsets.

Model	**GPS Chipset**
M3 SKY M3 ORANGE M3 T	SiRF Start III
M3 SKY MM3 M3 SMART M3 ORANGE	UBLOX(AGPS supported)

PDAs that use SiRF Star III do not support A-GPS (Assisted GPS). However, it is supported in the M3 SKY, M3 ORANGE since 2Q 2012.

Questions about GPS

1. When does the GPS module start gathering GPS data?

When the power is supplied to GPS module and COM2 is opened, GPS starts to work regardless of running OS. It only works when COM Port is opened at certain program.

2. How long does battery last while turning on GPS?

Battery will last for about 9 hours when using standard battery and Level 5 of backlight. It may vary depending on its usage environment**.**

M3 SKY, M3 ORANGE

AGManager

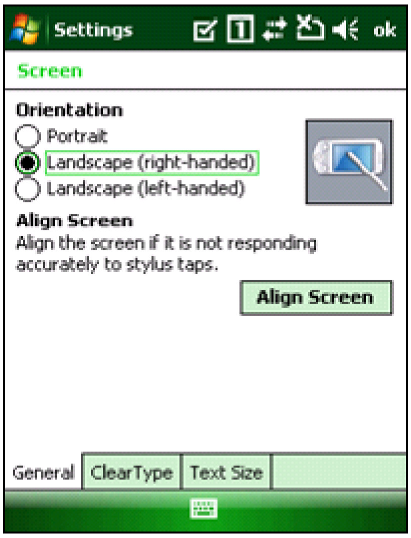
AGManager is a GPS test program for **Sirf III only**. To test GPS, download below linked AGManager file and unzip it. To install this program, please follow below steps.

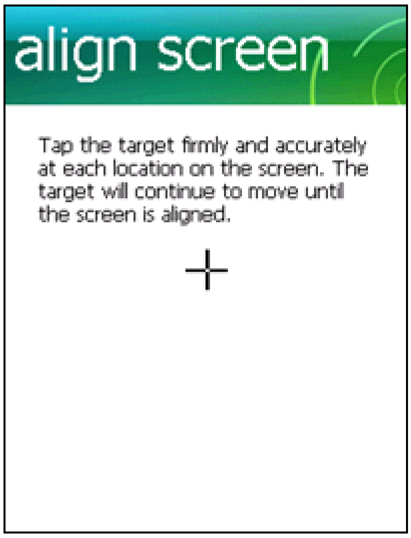
AGManager : Download

1. Move to Start\Settings\System\Screen to align screen first.



2. Check at 'Landscape (right-handed)' and click 'Align Screen' button.

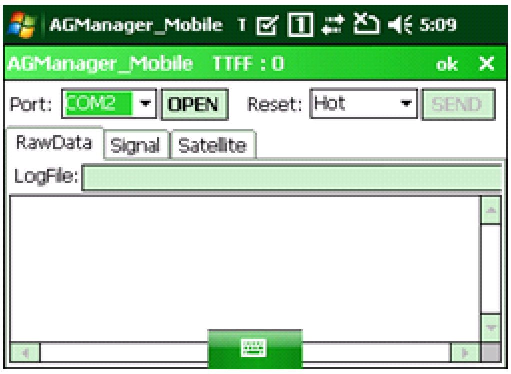




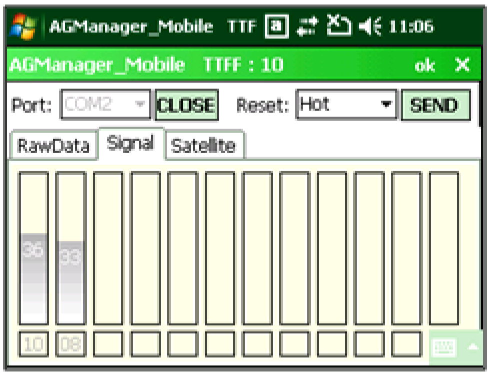
After aligning screen, it will turn to below picture.

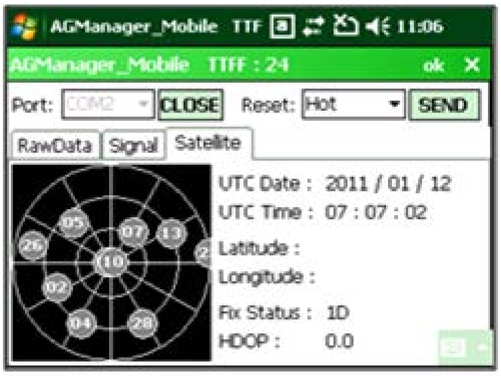


3. Launch AGManager program and select COM2 then click OPEN button. It will start gathering GPS data.







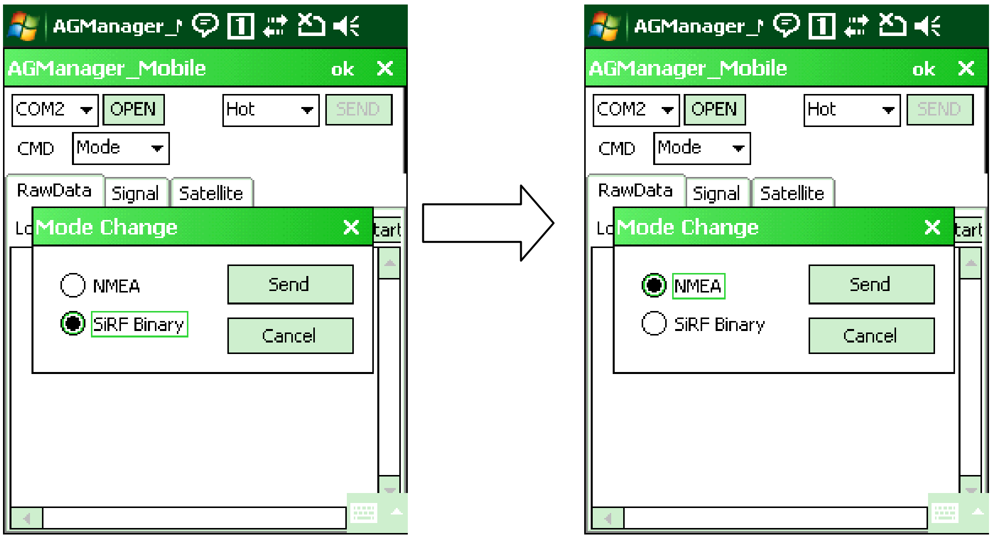


If you get the fixed satellites more than 4, you can get the position by latitude and longitude.

And there are three types of GPS reset - cold, warm and hot. Reset means re-positioning of its location.

- Cold reset: A condition in which the GPS receiver can arrive at a navigation solution without initial position, time, and current Ephemeris.
- Warm reset: Start mode of the GPS receiver when current position, clock offset, and approximate GPS time are input by the user. Ephemeris data is not available.
- Hot reset: Start mode of the GPS receiver when current position, clock offset, approximate GPS time, and current ephemeris data are all available.

* Note: Sometimes when internal battery is dead PDA with Sirf III module, default setting of NMEA Protocol changes to Sirf Binary Protocol, if GPS is suddenly not working, please change this setting back to NMEA using AG Manager.


AGManager_Mobile
ok
COM2
OPEN
Hot
SEND
CMD
Mode
RawData
Signal
Satellite
Mode Change
NMEA
SiRF Binary
Send
Cancel
AGManager_Mobile
ok
COM2
OPEN
Hot
SEND
CMD
Mode
RawData
Signal
Satellite
Mode Change
NMEA
SiRF Binary
Send
Cancel

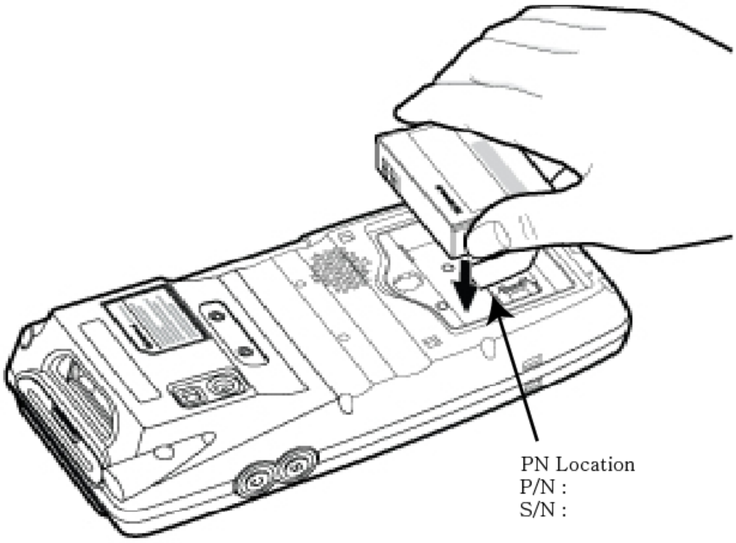
5. HARDWARE

Common

Device Identification

How to use P/N to Identify Device Options

The user of M3 Mobile handheld terminal can use the product number (P/N) to identify the device option such as Scanner, WLAN, WWAN, etc. The P/N is normally indicated inside the battery socket as indicated in the figure.



Please refer to below table to learn how to read P/N.

Note that this table is only valid for products manufactured after September 2010.

Indices	Character	Interpretation	Remarks
1st	A	MC-6000S	Discontinued.
	B	MC-6200S	M3 RED
	C	MC-6300S	M3 GREEN
	D	MC-6400S	M3 GREEN (HW decoder)
	E	MC-6500S	M3 GREEN
	F	MC-6600S	Discontinued.
	G	MC-7700S	M3 SKY (2D Scanner)
	H	MC-6100S	Discontinued.
	I	MC-7100S Summit	M3 SKY (Summit WLAN)
	J	MC-7100S	M3 SKY (Samsung WLAN)
	K	MC-7500S	M3 SKY (Samsung WLAN)
	M	MC-1000S	M3 BLACK
	N	MC-6700S	M3 T
	O	MC-8000S	MM3
	P	MC-8800S	M3 POS
	R	MC-7500S Summit	M3 SKY (Summit WLAN)
	S	MC-7700S Summit	M3 SKY (2D Scanner, Summit WLAN)

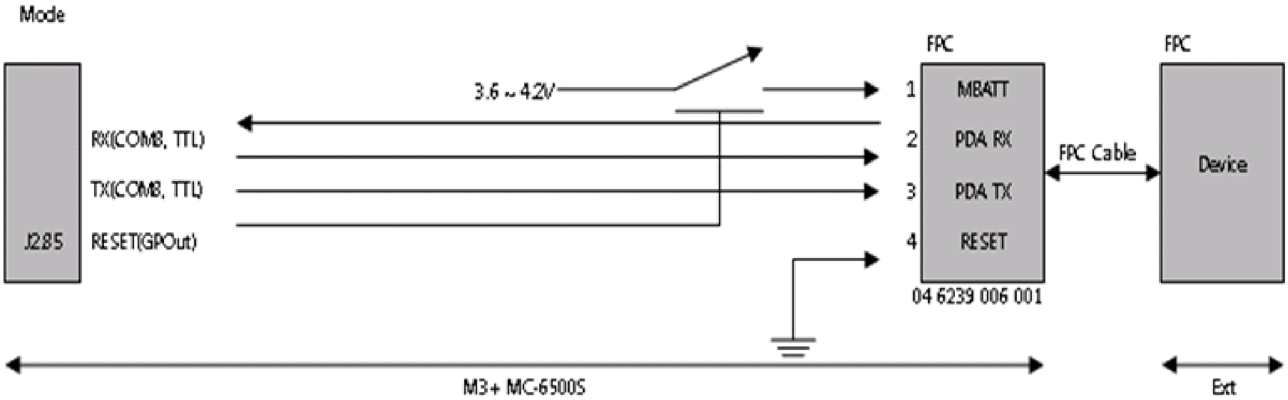
	U	MC-10	M3 SMART
	TA	MC-7100S Telstra	
	Q	M3-20	M3 ORANGE
2nd	A	xx00S	Alpha-numeric keypads
	B	xx10S	RFID Module
	C	xx20S	RFID Module
	D	xx30S	RFID Module
	K	xx00S QWERTY	QWERTY keypads
	L	xx10S QWERTY	QWERTY keypads and RFID module
3rd CPU / ROM	1	400 / 64	
	2	400 / 256	
	3	520 / 64	
	4	520 / 128	
	5	520 / 256	
	6	624 / 256	
	7	806 / 256	
	8	806 / 1G	
	9	833 / 512	
	10	833 / 1G	
4th WWAN	G	GSM	
	H	HSDPA/HSPA+(for Smart only)	
	M	CDMA	
	N	N / A	
	P	PCS	
5th	C	CF	
	G	WLAN & GPS	
	N	N / A	
	P	GPS	SirF III, UBLOX(AGPS)
	W	WLAN	Samsung or Summit
6th Options	A	S	S: Scanner
	B	SC	C: Camera
	C	SB	B: Bluetooth
	D	SCB	
	E	CB	
	F	B	
	G	C	
	H	N / A	
7th RFID	A	13.56 MHz (Ceyeon)	Ceyeon RFID Module
	B	13.56 MHz (Telefunken)	Telefunken RFID Module
	C	13.56 MHz (M3 Mobile)	M3 Mobile (HID) RFID Module
	U	800 MHz(UHF)	CAEN
	N	N / A	
	L	LF	M3 Mobile(HID) RFID Module
8th Year	L	2012	Manufactured in 2012
	M	2013	Manufactured in 2013 and so on...
9th Month	A	January	Manufactured in January
	B	February	Manufactured in February and so on...

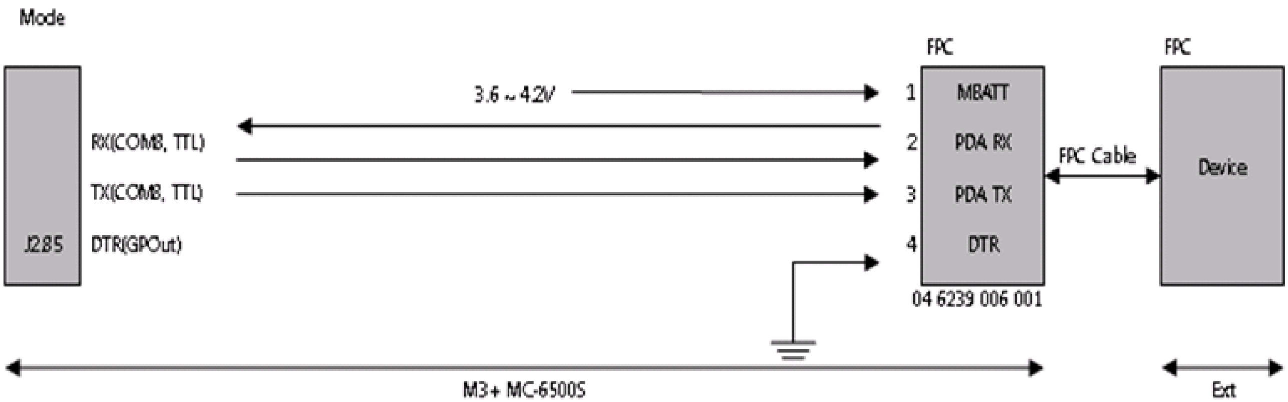
Last five digits are identification serial codes.

M3 GREEN

External Device User Guide

System Block between M3 GREEN (MC-6510S) and External Device

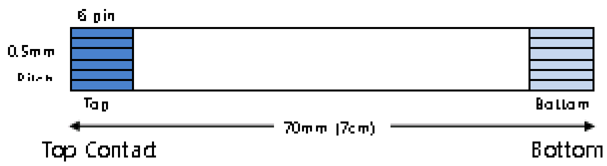




Host Interface Connector [MC-6500S]

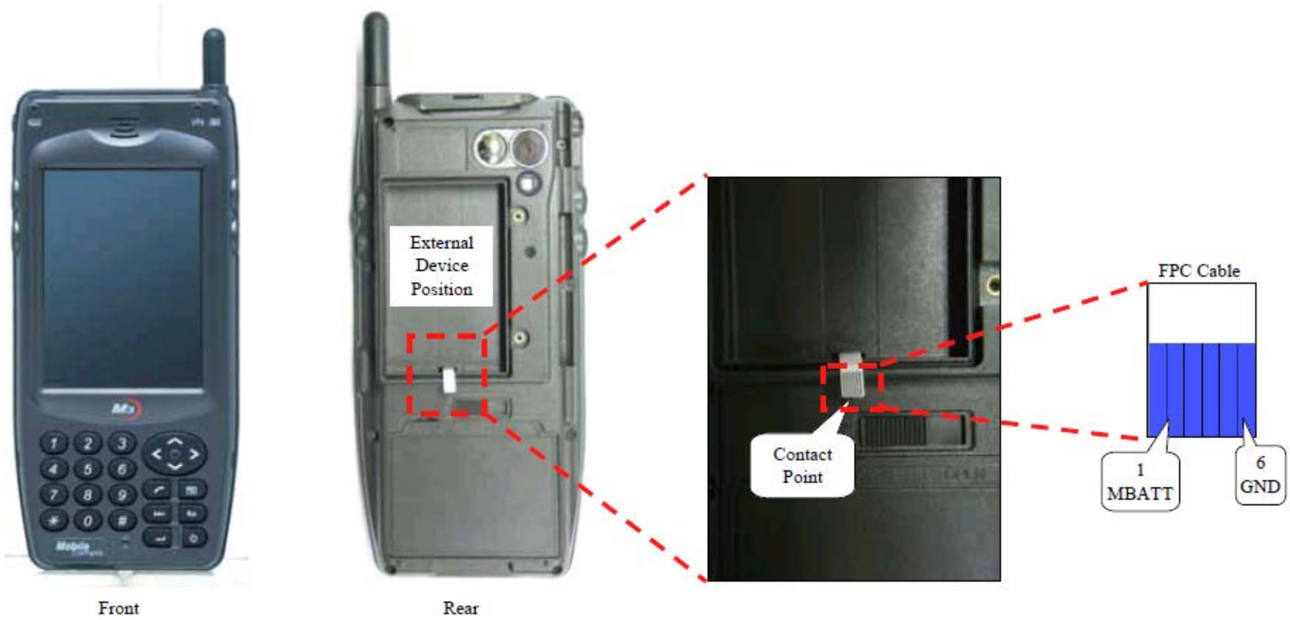
Production: Kyocera-elco http://www.kyocera-elco.com
Part Type : FPC Connector
Part Name: 0.5mm Pitch RA SMT Bottom contact One-touch lock

MC-6500S to External Device FPC Cable



Production : KFC Electric
Part Type : FPC Cable
Part Name : 0.5mm Pitch Top/Bottom cross contact
Part Number : KF16 06/07 S5 B1 VS1 VB1

Configuration of FPC Cable to Connect External Device



* As you see in the above picture, the FPC cable to connect with external device is exposed to outside to use.
* Space for external device is 38.1(w) x 59.9(h) x 8.3(d).

Host Interface Connection Pin Out

* Mode (Mode 1 or Mode 2) can be selected by user. The manual to do this please refer to the 9th item on the end of this section.

	PIN	Signal	I/O	PDA Idle	Application Running	PDA Sleep	PDA Wakeup	Application End	Low Battery or Battery Pack Detached	Description
	1	MBATT	-	-	-	-	-	-	-	Power-Supply voltage output. Range 3.6 ~ 4.2V
	2	RX (COM8)	I	Close	Open	Close	Open	Close	Close	Input-TTL level 232 receive data (3.3V~ 0V)
	3	TX(COM8)	O							Output-TTL level 232 transmit data (3.3V ~ 0V)
Mode1	**4**	RESET	O	Low	It is controllable by user's application. It is Low by default, and the reset time can be controlled by user.					User Application control *KernelIoControl is provided (refer to the 5th item) Output -high signal (3.3V)
	5	PWR_EN	O	Low	High	OS keeps the status before sleep (make it Low from High is possible by driver)	OS will keep the status before sleep	Application should make it low	[a]	(By installing driver, pin status can be set as Low at PDA Sleep) * Driver (.dll file) is provided (refer to [b]) * KernelIoControl is provided (refer to the 3rd item) Output- User Application control is active high

										signal (3.3V) Serial port buffer = to switch between ext device and ext serial because the COM8 is shared. * High signal: Buffer on * Low signal: Buffer off
M	**4**	DTR	O	Low	High (Port should be open)	OS makes it Low	OS keeps the status before sleep	Application should close the COM port		Output- Active high signal (3.3V) Depending on the status of COM Port, OS handles DTR pin as below. * When COM Port is Opened, DTR is High * When COM Port is Closed, DTR is Low
	5	NC	-		-	-	-	-	-	This pin cannot be used * There should be no circuit connection. Therefore, it should be open at the External Device.
	6	GND	-	-	-	-	-	-	-	Power- Supply and signal ground.

[a]: When Battery is low or battery pack is detached, PDA goes to sleep after displaying "battery runs out or battery pack is detached".
: At this moment, application should close the COM Port and cut the power to the External Device (Refer to the technical document we provided in the past) by receiving below event.

Namely, COM port: close and PWR_EN: off
* PWR_EN: Driver should set the pin status of PWR_EN to low to disable the serial buffer for preventing possible leakage current.

* In the case of battery detached or low battery

- Things to do in the application

```
#define WM_BATTERY_OFF WMUSER+4955
case WM_BATTERY_OFF:
```

[b]: In order to set the pin status of PWR_EN to Low, the provided driver should be loaded using below code in the application.

```
HANDLE hPWRDevice;
HANDLE hPWR= 0;

hPWRDevice=RegisterDevice(
            TEXT("XXX"), //device identifier prefix
            1, //device identifier index
            TEXT("pwrdrv.dll"), //device driver name
            0); //instance information (passed to XXX_Init)
if (hPWRDevice)
{
            hPWR=CreateFile(_T("XXX1:"),
```

```
            GENERIC_READ | GENERIC_WRITE,
            0, //must be opened with exclusive-access
            NULL, //no security attributes
            OPEN_EXISTING, //must use OPEN_EXISTING
            0,
            NULL; //hTemplate must be NULL for comm devices
            if (!hPWR)
            {
                        return;
            }
}
else return;
//this is just an example code (XXX represents the module name).
```

1. MBATT

Supply the power of Min 3.6V ~ Max 4.2V from PDA main battery.

2. TX/RX [TTL Level 232]

PDA COM Port to use is COM8 and it is 3.3V in TTL Level.

Note: It is difficult to use 230K or 460K baud rate because there is no hardware flow control. Hence, 115.2K is recommended.

3. PWR_EN [Power Enable]

It can be controlled in the user's application to control the power of external module (refer to the source code).

* In the case of powering up the External Device

- Things to do in the External Device Driver

1) Please define as below

```
#define IOCTL_HAL_PWR_SEL CTL_CODE (FILE_DEVICE_HAL, 2118, METHOD_BUFFERED, FILE_ANY_ACCESS)
```

2) Power Set Low (To confirm that it is low)

```
ucSel = 0;
KernelIoControl(IOCTL_HAL_PWR_SEL, &ucSel, 1, NULL, 0, NULL);
Sleep(100);
```

3) Power Set High

```
ucSel = 1;
KernelIoControl(IOCTL_HAL_PWR_SEL, &ucSel, 1, NULL, 0, NULL);
Sleep(250);
```

* In the case of powering down the External Device

1) Power Set Low

```
ucSel = 0;
KernelIoControl(IOCTL_HAL_PWR_SEL, &ucSel, 1, NULL, 0, NULL);
```

4. DTR [Data Terminal Ready]
The DTR signal is sent via a dedicated wire from the transmitting PDA to the transmission device to indicate that the PDA is ready to receive data.

5. RESET
Reset is controlled by the below KernelIoControl.

1) Reset Set High

```
ucSel = 0;
KernelIoControl(IOCTL_HAL_PWR_SEL, &ucSel, 1, NULL, 0, NULL);
```

Sleep (xxx) //this is to control the reset time, so please give the required sleep time between high and low.

2) Reset Set Low

```
ucSel = 1;
KernelIoControl(IOCTL_HAL_PWR_SEL, &ucSel, 1, NULL, 0, NULL);
```

6. PDA Idle
It is standby mode and Idle Current is below 200mA.

7. PDA Sleep
It is power saving mode and the Sleep Current is below 10mA.

This is an example code of when the device goes to sleep, system will power down your module (this is with assumption that you power off your model at device sleep).

* In the case of PDA going to sleep

- Things to do in the External Device Driver

```
extern "C" _declspec(dllexport)
void XXX_PowerDown(DWORD hDeviceContext)
{
        XXX_Power(FALSE);
        return;
}
//this is just an example code (XXX represents the model name).
```

8. PDA Wakeup
This is an example code; you need to send a message to the application that the device is active again.

* In the case of PDA Wakes Up

- Things to do in the External Device Driver

```
void XXX_PowerUp(DWORD hDeviceContext)
```

```
{
        PostMessage(
        HWND_BROADCAST,
        WM_POWERUP,
        NULL,
        NULL
        );
        return;
}
//this is just an example code (XXX represents the module name).
```

- Things to do in the application

```
case WM_POWERUP:
When you get this message, you need to power up your module and reinitialize it.
```

9. How to select Mode

In M3.ini file, you can find the label called [EXT_MODE2].
Value of '0' means enable MODE1.
Value of '1' means enable MODE2.

10. Disabling IrDA

Since the external device uses IrDA port, it should be disabled in M3.ini.
In M3.ini file, you will find a label called [IRDA_INIT].
Please assign '0' to its install value.

M3 SKY

How to use Windows Mobile 5.0 to M3 SKY.

M3 SKY used to use Windows Mobile 5.0 as its operating system but it's been replaced by Windows Mobile 6.x now. M3 Mobile therefore does not support Windows Mobile 5.0 anymore, however there are still number of customers wish to use Windows Mobile 5.0, and they may be able to swap their Operating system to Windows Mobile 5.0, if their device fulfill conditions mentioned below.

Model	CPU PCB Ver / Main PCB Ver	CPU PCB V 1.1	CPU PCB V1.21 /	CPU PCB V2.0
MC-7100S (WLAN Type)	V 1.1 / V 1.2 (MC-7100S Samsung)	CPLD 0X33	CPLD 0X43	CPLD 0X43
MC-7500S MC-7700S (WLAN Type)	V 1.3 (MC-7500S Samsung)	CPLD 0X2 or CPLD 0X20	CPLD 0X23	N/A
	V 2.1 / V 2.2 (MC-7500S, MC-7700S Samsung)	CPLD 0X30	CPLD 0X43	CPLD 0X43

Notice: To be able to perform above method, the first digit of your KEY PCB version information must be '1'.

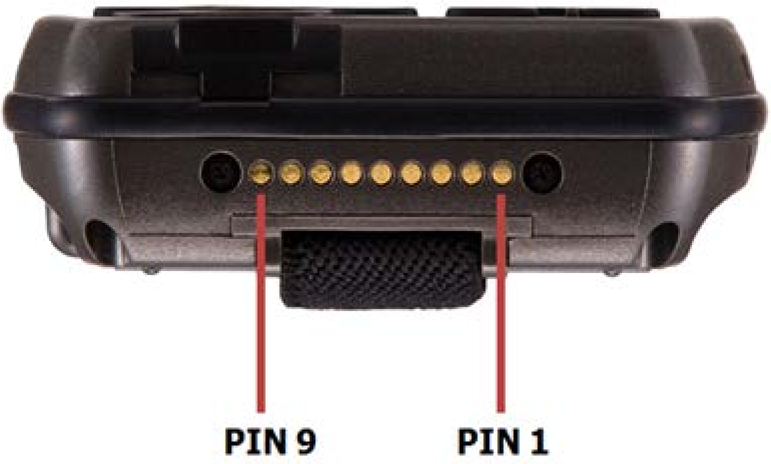
If device's Main board version matches with its CPU board version you may downgrade your device to use Windows Mobile 5.0, to get OS and method of doing it please contact ITC page.

6. INPUT / OUTPUT

M3 GREEN

M3 GREEN Pin I/O Description

This document describes the type and usage of 9 POGO Pin connectors and 24 Pin connector of M3 GREEN which is located at the bottom of the device.



1. POGO PIN Description

No.	Name	Connect Information
1	USB_DN	For USB data negative
2	USB_DP	For USB data positive
3	USB_PW	For USB power
4	DETECT	Active High
5	RXD	PDA -> DCE (TTL level), Serial RXD COM8
6	TXD	PDA <- DCE (TTL level), Serial TXD COM8
7	USB_DETECT	For USB
8	CHR_MNS	GND
9	+5V	System Power and Charging

2. 24 Pin Description

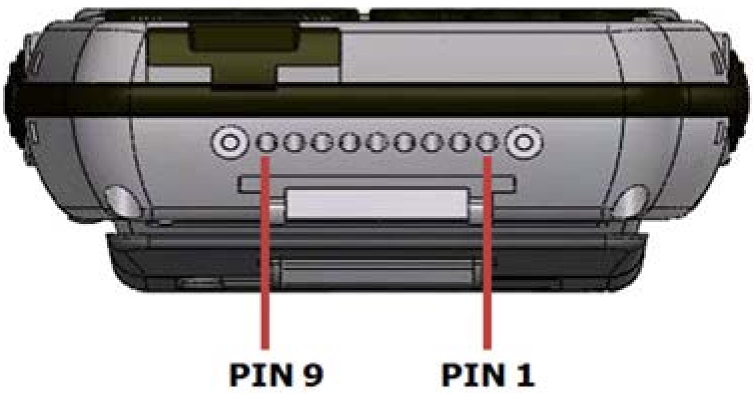
No.	Name	Connect Information
1	RSV	
2	RSV	
3	USB_HOST_DETECT	Detect for USB Host (Low Active)
4	+5V	System Power and Charging
5	+5V	System Power and Charging
6	TDI	KEY_CPLD
7	TMS	KEY_CPLD
8	TCK	KEY_CPLD
9	TDO	KEY_CPLD
10	USB_DN	For USB data negative
11	EXT_SERIAL DETECT	Active High
12	GND	Power Ground
13	EXE_SERIAL_RXD	PDA <- DCE (TTL level)
14	EXE_SERIAL_TXD	PDA -> DCE (TTL level)

15	USB_DP	For USB data positive
16	USB_PW	For USB power
17	DM_RXD	CDMA
18	DM_TXD	CDMA
19	GND	Power Ground
20	DM_DETECT	CDMA DM Port Enable (High Active)
21	BATT	Battery Line (MAX. 4.2V)
22	BATT	Battery Line (MAX. 4.2V)
23	RSV	
24	GND	Power Ground

M3 SKY

M3 SKY Pin I/O Description

This document describes the type and usage of 9 POGO Pin connectors and 24 Pin connector of M3 SKY which is located at the bottom of the device.



1. POGO PIN Description

No.	Name	Connect Information
1	USB_DN	For USB data negative
2	USB_DP	For USB data positive
3	USB_PW	For USB power
4	DETECT	Active Low
5	RXD	PAD -> DCE (TTL level), Serial RXD COM8
6	TXD	PDA <- DCE (TTL level), Serial TXD COM8
7	TOGID	DC 3.6~4.2V
8	CHR_MNS	GND
9	+5V	System Power and Charging

2. 24 Pin Description

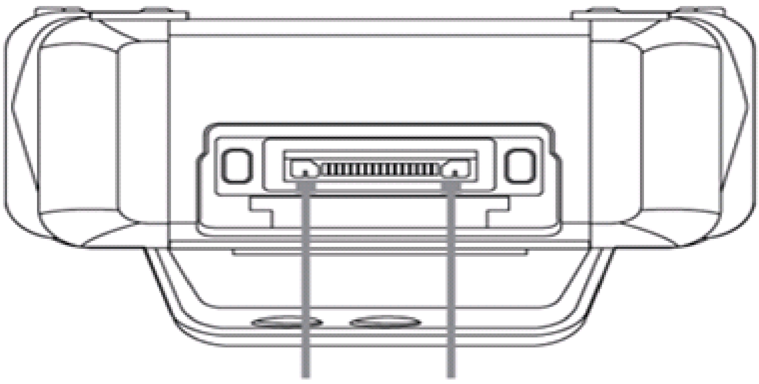
No.	Name	Connect Information
1	TRST	
2	TMS	PRE_PWR
3	TCK	USB_OTGID
4	TDI	DC 5V
5	TDO	DC 5V
6	RXD	JTAG_TDI
7	TXD	JTAG_THS
8	RTS	JTAG_TCIC
9	CTS	JTAG_TDO
10	USB_DN	For USB data negative
11	GPS_DETECT	Active High
12	BATT_MNS	
13	RXD2	PDA <- DM_TXD
14	TXD2	PDA -> DM_RXD
15	USB_DP	For USB data positive
16	USB_PW	For USB power
17	DM_RXD	CPU_TRST
18	DM_TXD	TEXT_POINT

19	BATT_MNS	
20	DM_DETECT	Active High
21	BATT	Battery Line (MAX. 4.2V)
22	BATT	Battery Line (MAX. 4.2V)
23	IGT	GSM ON/OFF
24	GND	Power Ground

MM3

MM3 Pin I/O Description

This document describes the type and usage of 16 Pin connector of MM3 which is located at the bottom of the device.



1. 16 PIN Description

No.	Name	Connect Information
1	5V	System Power and Charging
2	5V	System Power and Charging
3	USBC_PW	USB Client PWR
4	USBC_DN	USB Client Data Negative
5	USBC_DP	USB Client Data Positive
6	GND	Power Ground
7	RXD	CPU_TRST
8	TXD	TEXT_POINT
9	DM_DET	Active High
10	EX_USBHP	USB HOST PWR
11	USBH_DN	USB Host Data Negative
12	USBH_DP	USB Host Data Positive
13	NC	Not connected
14	NC	Not connected
15	NC	Not connected
16	USB HOST Detect	Detect for USB Host (Low Active) Direct connection is 180ohm Pull down

M3 T

M3 T Pin I/O Description

M3T (MC-6700S) I/O PIN Description

This document describes the type and usage of 18pin connector of M3T which is located at the bottom of the device.



1. 18PIN Connector (Honda BCL-C18LMYG)

Mated Connector Desktop
Cradle Type : Honda BCL-C18LFDG1
Plug Type : Honda BCL-C18SP

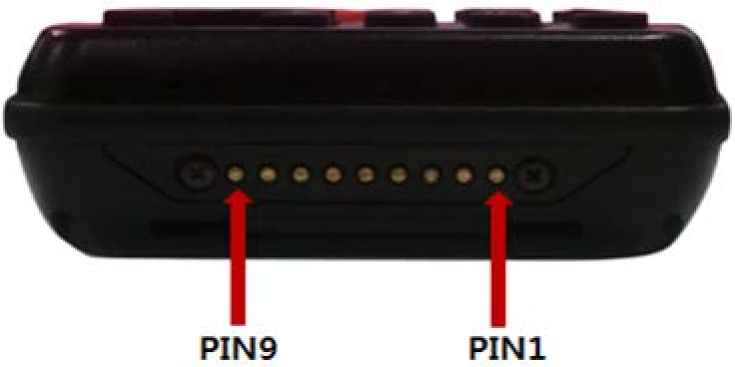
2. Pin Description

No.	Name	Direction	USER Description	Remark
1	+5 V	VDD	System Power and Charging	System Power and Charging
2	Pistol Grip	IN	Pistol Grip Connection (with No. 6)	Pistol Grip Connection (with No. 6)
3	USBC_PW	IN	USB Client Power	USB Client Power
4	USBC_DN	IN_OUT	USB Client Data Negative	USB Client Data Negative
5	USBC_DP	IN_OUT	USB Client Data Positive	USB Client Data Positive
6	Pistol Grip	IN	Pistol Grip Connection (with No. 2)	Pistol Grip Connection (with No. 2)
7	RXD4/DM_RXD	IN	Serial RXD COM7 (+3.3V~0V CMOS Level)	Serial RXD COM7 (+3.3V~0V CMOS Level)
8	TXD4/DM_TXD	OUT	Serial TXD COM7 (+3.3V~0V CMOS Level)	Serial TXD COM7 (+3.3V~0V CMOS Level)
9	DM_DETECT	IN	NC	CDMA DM Port Enable (High Active) Direct Connection is 1k Pull-up
10	EXT_USBP	OUT	USB Host Power (5V/500mA)	USB Host Power (5V/500mA)
11	TDI / USBH_DN	IN/ IN_OUT	USB Host Data Negative	JTAG /USB Host Data Negative
12	TMS / USBH_DP	IN / IN_OUT	USB Host Data Positive	JTAG /USB Host Data Positive
13	TCK / RFID_PWR_EN	OUT	RFID Power Enable	JTAG / RFID Reset
14	TDO / RFID_RST	OUT	RFID Reset	JTAG / RFID Reset
15	TRST	IN	NC	JTAG
16	USB_HOST_DETECT#	IN	Detect for USB Host (Low Active) Direct connection is 180ohm Pulldown	Detect for USB Host (Low Active) Direct connection is 180ohm Pull down
17	V_BATT	IN / OUT	Battery Line (Max. 4.2V)	Battery Line (Max. 4.2V)
18	GND	GND	Power Ground	Power Ground

M3 ORANGE

M3 ORANGE Pin I/O Description

This document describes the type and usage of 9 POGO Pin connector of M3 ORANGE which is located at the bottom of the device.



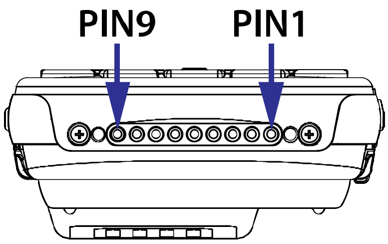
POGO PIN Description

No.	Name	Connect Information
1	USB_DN	For USB data negative
2	USB_DP	For USB data positive
3	EX_USBHP	USB Host Power
4	GPSDET	Active High
5	DM_RXD	CPU_TRST, Serial RXD COM8
6	DM_TXD	TEXT_POINT, Serial RXD COM8
7	DM_DET	Active High
8	GND	Power Ground
9	+5V	System Power and Charging

M3 SMART

M3 SMART Pin I/O Description

This document describes the type and usage of 9 POGO Pin connector of M3 SMART which is located at the bottom of the device.



POGO PIN Description

No.	Name	Connect Information
1	USB_DN	For USB data negative
2	USB_DP	For USB data positive
3	USBVBUS	USB Host Power
4	DETECT	Not Connected
5	DM_RXD	CPU_TRST, Serial RXD COM2
6	DM_TXD	TEXT_POINT, Serial RXD COM2
7	USB_ID	High for Client, Low for Host
8	GND	Power Ground
9	+5V	System Power and Charging

7. KEYPAD

Common

Key Input Type

The key mode can be identified and changed by the following registry.

Model	OS Version	Registry Path
M3 SKY	**-**	[HKEY_LOCAL_MACHINE \ ControlPanel \ keypad]
M3 SKY SUMMIT - Numeric	**813**	[HKEY_LOCAL_MACHINE \ ControlPanel \ Keypad \ **Numeric**]
M3 SKY SUMMIT - QWERTY	**813**	[HKEY_LOCAL_MACHINE \ ControlPanel \ Keypad \ **Qwerty**]
M3 ORANGE - Numeric	**M2STXXF160XX**	[HKEY_LOCAL_MACHINE \ ControlPanel \ Keypad \ **Numeric**]
M3 ORANGE - QWERTY	**M2STXXF160XX**	[HKEY_LOCAL_MACHINE \ ControlPanel \ Keypad \ **Qwerty**]
M3 T	**MTSTX5047XX**	[HKEY_LOCAL_MACHINE \ **System \ MobileCompia \ Keypad**]
M3 SMART	**C3STX6147XX**	[HKEY_LOCAL_MACHINE \ ControlPanel \ Keypad \ **MultiFunc**]
M3 POS	**MPSTC5038XX**	[HKEY_LOCAL_MACHINE \ **SOFTWARE \ M3Mobile \ Keypad**]
MM3	**B1STXV650XX**	[HKEY_LOCAL_MACHINE \ ControlPanel \ Keypad \ **KeySetting**]

Please refer following table of input value.

Key mode value	Description
0	[1] : Number input
1	[a] : Lower case alphabet input
2	[A] : Upper case alphabet input

Please refer following table for keys that can be modified.

Model	Key	Default	Detail
M3 SKY SAMSUNG	BLOnPeriod	5	Back light on for 5 seconds
	DisableSideKey	0	1 - Enable, 0 - Disable
	FuncKeyPressed	0	0/1/2 Represents different function key input mode.
	KeyMode	0	0/1/2 Represents different input mode.
	KeyPadDisable	0	1 - Enable, 0 - Disable
	TodayPhoneKey	1	1 - Disable, 0 - Enable
	UseBacklight	1	1 - Disable, 0 - Enable
M3 SKY Numeric	EndKey, F1Key, F2Key, LeftDownKey, LeftUpKey, P1Path, P2Path, RightDownKey, RightUpKey, SendKey, Soft1Key, Soft2Key		
M3 SKY QWERTY	ActionKey, DownKey, EndKey, LeftDownKey, LeftKey, LeftUpKey, OnlySendEndFunc, P1Path, P2Path, RightDownKey, RightKey, RightUpKey, ScanKey, SendKey, Soft1Key, Soft2Key, TabKey, UpKey		
M3 ORANGE	KeypadType	0	0 - Alpha Numeric, 1 - QWERTY

	TodayPhoneKey	1	1 - Disable, 0- Enable
M3 ORANGE – Numeric	#Key, *Key, 0Key, 1Key, 2Key, 3Key, 4Key, 5Key, 6Key, 7Key, 8Key, 9Key, ActionKey, BSKey, DownKey, EndKey, FnKey, KeymodeKey, LeftDownKey, LeftKey, LeftUpKey, P1Path, P2Path, RightDownKey, RightKey, RightUpKey, ScanKey, SendKey, Soft1Key, Soft2Key, UpKey, WindowsKey		
M3 ORANGE - QWERTY	DownKey, EndKey, LeftDownKey, LeftKey, LeftUpKEy, OnlySendEndFunc, P1Path, P2Path, RightDownKey, RightKey, RightUpKey, ScanKey, SendKey, Soft1Key, Soft2Key, TabKey, UpKey		
M3 T	BackLight, Call, Camera, F1, F2, F3, F4, Mode, Numeric, Scanner, VolDown, VolUp		
M3 SMART WM	KeypadType	0	0 – Alpha Numeric, 1 – QWERTY
	!Key, "Key, #Key, %Key, &Key, 'Key, (Key,)Key, *Key, +Key, ,Key, -Key, .Key, /Key, 0Key, 1Key, 2Key, 3Key, 4Key, 5Key, 6Key, 7Key, 8Key, 9Key, :Key, ;Key, =Key, ?Key, @Key, _Key, AKey, BKey, BkspKey, CKey, DKey, DownKey, EKey, EndKey, EnterKey, ESCKey, F10Key, F11Key, F12Key, F13Key, F14Key, F15Key, F16Key, F17Key, F18Key, F19Key, F1Key, F20Key, F2Key, F3Key,		

	F4Key, F5Key, F6Key, F7Key, F8Key, F9Key, FKey, GKey, HKey, IKey, JKey, KKey, LeftKey, LKey, LockKey, MKey, NKey, OKey, OKKey, OnlySendEndFunc, P1Path, P2Path, PKey, QKey, RightDownKey, RightKey, RKey, ScanKey, SendKey, SideUpKey, SKey, Soft1Key, Soft2Key, SpaceKey, TabKey, TKey, UKey, UpKey, VKey, VolumeDownKey, VolumeUpKey, WindowKey, WKey, XKey, YKey, ZKey		
M3 SMART CE	!Key, "Key, #Key, %Key, &Key, 'Key, (Key,)Key, *Key, +Key, ,Key, -Key, .Key, /Key, 0Key, 1Key, 2Key, 3Key, 4Key, 5Key, 6Key, 7Key, 8Key, 9Key, :Key, ;Key, =Key, ?Key, @Key, _Key, AKey, BKey, BkspKey, CKey, DKey, DownKey, EKey, EndKey, EnterKey, ESCKey, F10Key, F11Key, F12Key, F13Key, F14Key, F15Key, F16Key, F17Key, F18Key, F19Key, F1Key, F20Key, F2Key, F3Key, F4Key, F5Key, F6Key, F7Key, F8Key, F9Key, FKey, GKey, HKey, IKey, JKey, KKey, LeftKey, LKey, LockKey, MKey, NKey, OKey, OKKey, OnlySendEndFunc, P1Path, P2Path, PKey, QKey, RightDownKey, RightKey, RKey, ScanKey, SendKey, SideUpKey, SKey, Soft1Key, Soft2Key, SpaceKey, TabKey, TKey, UKey, UpKey, VKey, VolumeDownKey, VolumeUpKey, WindowKey, WKey, XKey, YKey, ZKey		

*Note: All the keys of M3 SMART CE have key mapping function.			
M3 POS	KeyMode	0	0/1/2 Represents different function key input mode.
	BackLight, End, ESC, F1, F2, Printer, Scanner, Send, VolDown, VolUp, KeyOption		
MM3	KeypadType	0	0/1/2 Represents Keypad Type.
	KeypadDisable	0	1 - Disable, 0- Enable
	WakeKeyUse	0	1 - Disable, 0- Enable
	CapsLockEnable	0	1 - Disable, 0- Enable
	YellowKeyMode	0	0/1/2 Represents different input mode.
	GreenKeyMode	0	0/1/2 Represents different input mode.
	TodayPhoneKey	1	1 - Disable, 0- Enable
	FuncKeyPressed	0	0/1/2 Represents different function key input mode.
	KeyMode	0	0/1/2 Represents different key input mode.

	BLOnPeriod	5	Back light on for 5 seconds
	UseBackLight	1	1 - Disable, 0- Enable
	BackSpaceKey, EndKey, EscKey, FKey_Enable, GreenKey, LeftSoftKey, M3ScanKey, P1Path, P2Path, P3Path, P4Path, RightSoftKey, SendKey, ShiftKey, TabKey, YellowKey		

Key Mapping

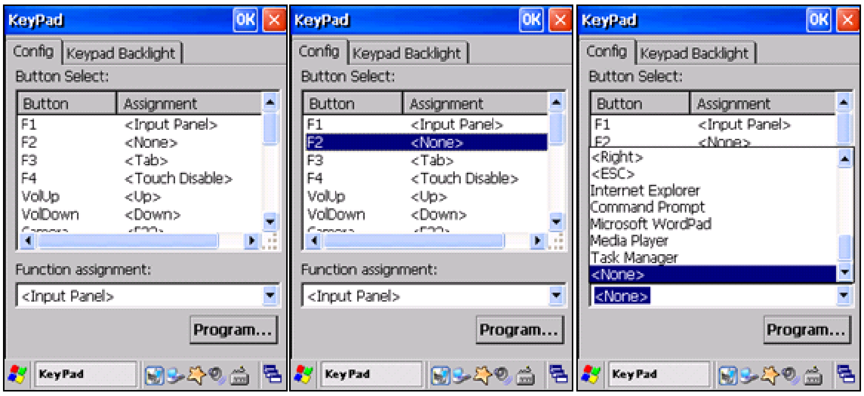
Certain program can be set to F1/F2 keys or Soft keys.

Move to Key setting option.

Each route is slightly different according as devices that you use.

M3 RED : Start\Programs\Utility\Buttons
M3 GREEN : Start\Programs\Utility\Buttons
M3 SKY : Start\Settings\Control Panel\Buttons\Side Key Setting
MM3 : Start\Settings\Control Panel\Buttons\Side Key Setting
M3 T : Start\Settings\Control Panel\Keypad
M3 POS : Start\Settings\Control Panel\Keypad
M3 ORANGE : Start\Settings\Personal\Buttons\Side Key Setting
M3 SMART : Start\Settings\Personal\Buttons\Side Key Setting

Select program you want to use from the drop down menu. Please refer to below example pictures for M3 T.



M3 GREEN

M3 GREEN Function Key Using Guide

M3 GREEN F1 ~ F9 Function Settings

Two different virtual key output values are available for function keys:

i. Standard values (FMode=1, ex. returns 0x76 for F7) and
ii. Customized values (FMode= 0, ex. returns 0x85 for F7).

It can be selected through M3.ini configuration.

To use this feature, download WinCE_Startup. Make sure downloaded file includes 3 files; M3.ini, M3INIT.exe and StartUp.inf and use the latest version of OS.
There are two ways of configuring M3.ini file:

1. Configuring in PC
2. Directly configuring in the device.

Configuring in PC

1. Open M3.ini using notepad.

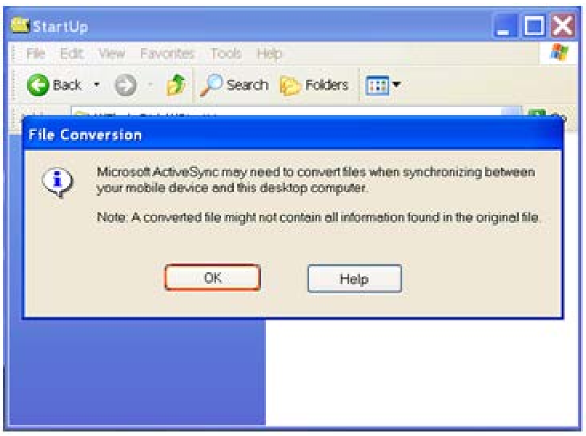
2. FMode setting is located under [M3GREEN_LEFT_SIDE_KEY]

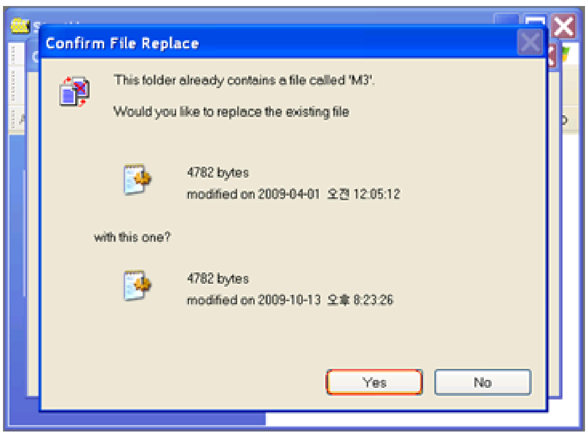
[M3GREEN_LEFT_SIDE_KEY]
Install=1
FKeyTray=1
FMode=1
LSideDown=6
LSideUp=1

FMode = 1 → Function key returns the standard values. Ex. Fn+7 returns 0x76, Fn+8 returns 0x77 etc.
FMode = 0 → Function key returns M3 customized values. Ex. Fn+7 returns 0x85, Fn+8 returns 0x86 etc.
Set FMode value as you wish and save the change in M3.ini file.

3. Connect the device to PC via ActiveSync.

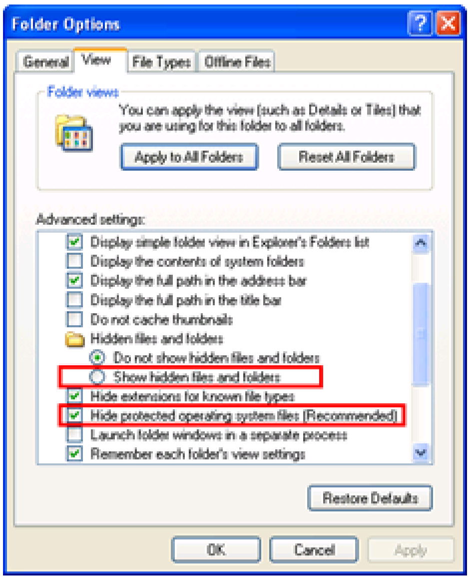
4. Copy all three files (M3.ini, M3INIT.exe and StartUp.inf) to [My Computer] -> [Mobile Device] -> [Flash Disk] -> [StartUp] folder.





※ If StartUp folder is hidden, change the settings in the folder option.



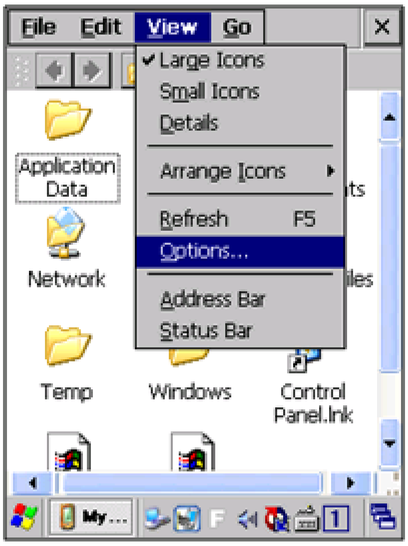


5. Finally reset the device.

Directly Configuring in the Device

1. Copy the downloaded files as depicted in steps 3 and 4 of ‘Configuring in PC’.

2. To view hidden folders and files, you must uncheck all options in folder option. Then, press 'OK'.

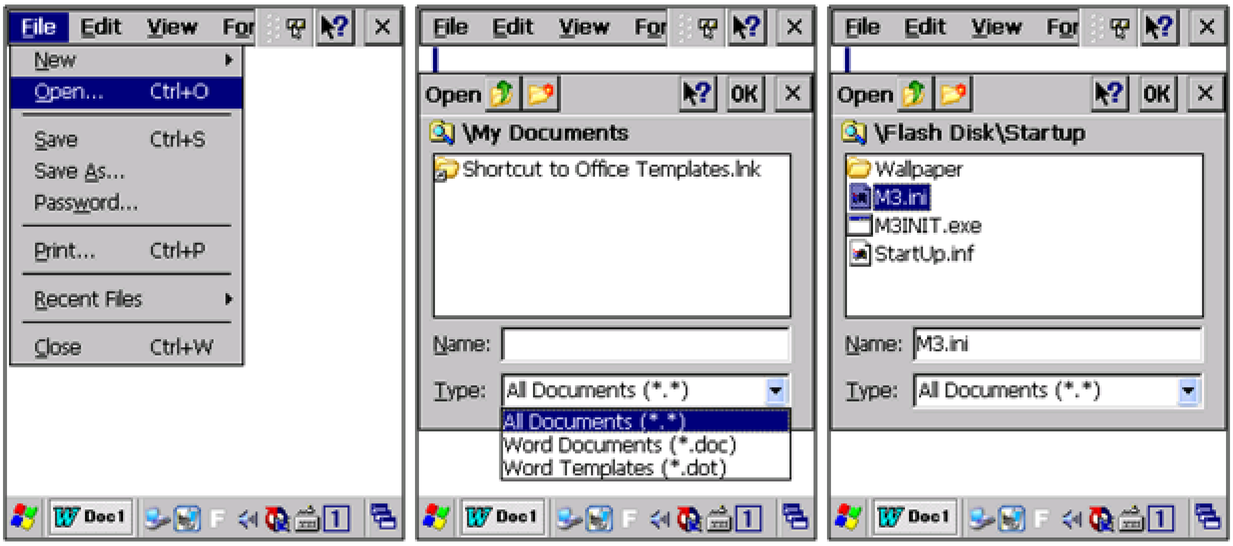




3. Open 'Microsoft WordPad'.

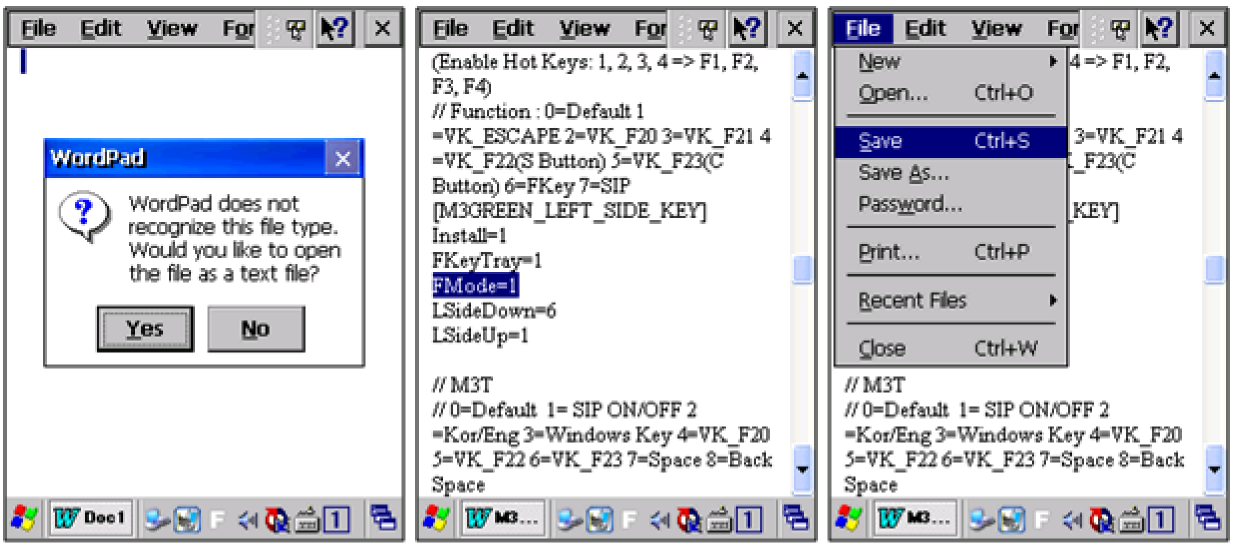


4. Open M3.ini file in Microsoft WordPad.

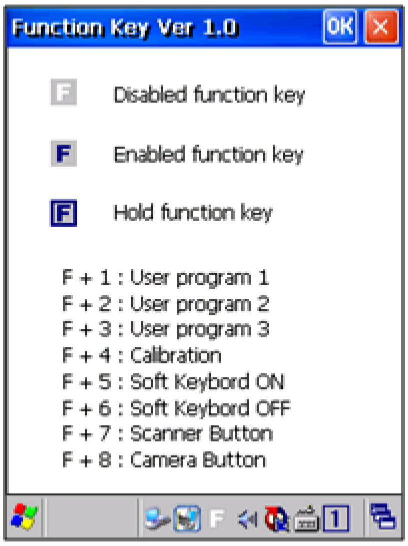


5. Change FMode to 1 or 0 as you wish and save the changes.FMode = 1 -> Function key returns the standard values. Ex. Fn+7 returns 0x76, Fn+8 returns 0x77 etc.

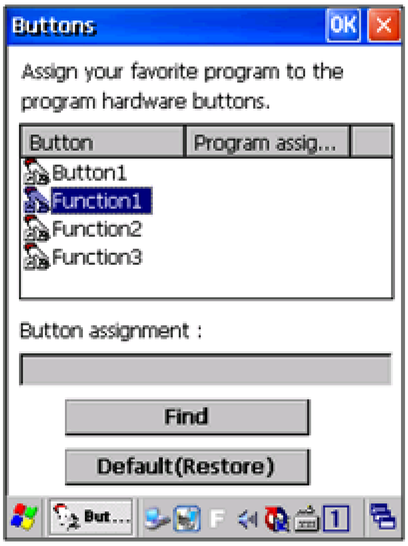
FMode = 0 -> Function key returns M3 customized values. Ex. Fn+7 returns 0x85, Fn+8 returns 0x86 etc.



6. Finally, reset the device.
If FMode is set to ‘0’, the function keys act as defined by M3 and ‘User program 1 to 3’ can be assigned in ‘Buttons’ option.
([Start] -> [Programs] -> [Utility] -> [Buttons])







Function 1 (F+1) refers to User program 1. With this option, you can launch an application by pressing the function key.

To assign an application to 'Function 1', click 'Function 1' then 'Find' to select application executable file.

These configurations will be lost after hard reset. To keep the settings even after hard reset, we recommend using MS-Backup.

If FMode is set to ‘1’, the function keys will return following values.

Function Key	Value	Function Key	Value
F1	0x70	F6	0x75
F2	0x71	F7	0x76
F3	0x72	F8	0x77
F4	0x73	F9	0x78
F5	0x74		

M3 SKY

Floating Keyboard

How do I get a floating SIP keyboard with M3 Sky WM5.0 or 6.1?

[HKEY_CURRENT_USER\ControlPanel\Sip]
"DragStyle"=dword:00000000

This can be coded into the STARTUP.INF file as follows.

RegSetValue=/h dword [HKEY_CURRENT_USER\ControlPanel\SIP]DragStyle: 1

Launching Applications using a Button

How can I set what application is launched when a key is mapped to Application1 or Application2?

You can set Application1 / Application2 in Side Key Settings ([Start]->[Settings]->[Buttons]-> Side Key settings)

If you want to launch IE with Application1, you can set the value as shown below in registry.

[HKEY_LOCAL_MACHINE\ControlPanel\Keypad\SideKey]
P1Path = /Windows/iexplore.exe
P2Path = Application 2

M3 SKY Key Customization

M3 SKY has 8 or 15 customizable keys depending on the keypad.

- **Alphanumeric Keypad - 8 customizable keys**

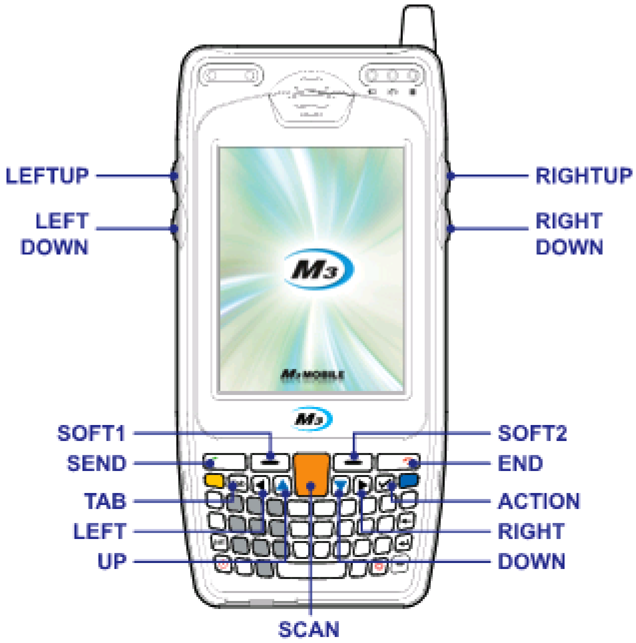


(SKY with phone module)



(SKY without phone module)

- **QWERTY Keypad - 15 customizable keys**



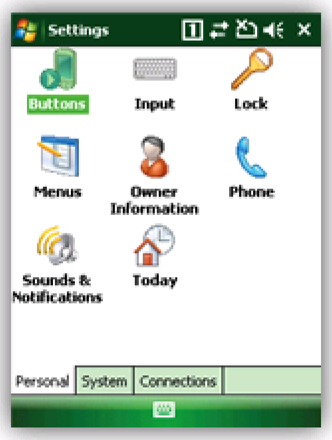
There are 3 ways to customize the key:

1. Using Windows Mobile GUI
2. Using VisualINI
3. Editing M3.ini

1. Using Windows Mobile GUI

Those keys can be customized as the following.







1. Gently tap the Start button and from the drop-down menu, select Settings.

2. In the Settings, select [Buttons].

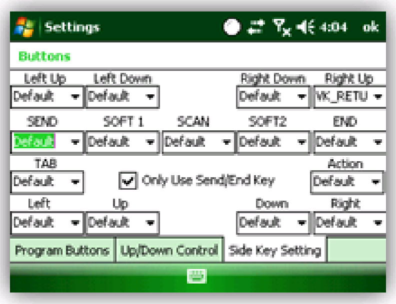
3. Select Side Key Setting.

4. From the Key Setting Window, those 8 (Alphanumeric keypad) or 15 keys (QWERTY keypad) can be customized.

Note that depending on the PDA option, it may appear differently.







(WM6.1, HSDPA) (WM5.0, non-GSM) (QWERTY, WM6.1, HSDPA)

You can assign the following functions to the keys. All keys have the same customization options. Note that 'Yellow' and 'Blue' keys have 'VK_F14' as the default value.

Default	Default value of the keys
VK_ESCAPE	Virtual key for escape.
VK_F13	Virtual key for F13 (user can assign a function to F13)
VK_F14	Virtual key for F14 (F14 is used to scan when ScanEmul is running)
VK_F17	Virtual key for F17 (user can assign a function to F17)
VK_F18	Virtual key for F18 (user can assign a function to F18)
VK_SPACE	Virtual key for space
VK_RETURN	Virtual key for return
SIP ON/OFF	Toggles soft input panel
Application 1	
Application 2	
Windows	Windows key
Home	Home key
PgUp	Page Up key
End	End key
PgDn	Page Down key

2. Using VisualINI

To use VisualINI, first you need to install it. To install manually, you can click VisualINI.CAB in Driver folder of Flash Disk or to install automatically after reset, set install value of [VISUALINI_INSTALL] to 1 in m3.ini file.

If VisualINI is installed, you can find StartUp icon at [Start] -> [Settings] -> [Systems] as shown in figure 2.1.

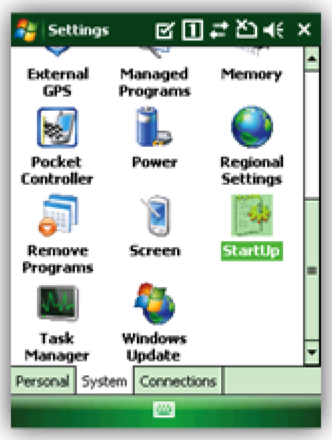


Figure 2.1 VisualINI

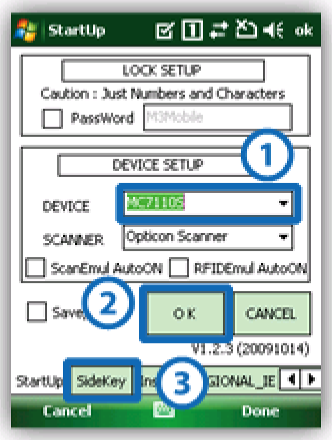


Figure 2.2 Device setup



Figure 2.3 Side key setting

In the StartUp window, user must set the correct device model (①) then, click 'OK' button to confirm it (②). Before going to the next step, the device must go through soft reset. Then, launch StartUp again to customize the keys. From figure 2.2, go to SideKey window (③) for key customization. M3 SKY SideKey customization window is shown in figure 2.3. Check 'Auto Start' if you want to keep the settings even after hard reset.

3. Using M3.ini

By editing M3.INI file, you can customize the keys as well. M3.INI is located in the StartUp folder in the Flash Disk of the Device. To edit the file, you may require copying the file to your PC.

If you open M3.INI file, you will find the following section:

```
//////////////////////////////////////////////////////////////////////////////////////
// M3SKY SideKey
//
// MC7500S, MC7700S, MC7510S
// Function : 0=Default 1=VK_ESCAPE 2=VK_F13 3=VK_F14 4=VK_F16 5=VK_F17 6=SIP on/off
7=VK_RETURN   8=excute application1 9=excute application 10=VK_SPACE
// BLUE/YELLO : 0= Default(VK_F14) 1= VK_ESCAPE 2= VK_F13   3= VK_F16   4= VK_F17   5=
SIP_BUTTON    6=VK_RETURN 7=excute application1 8=excute application 9=VK_SPACE
//
// MC7100S, MC7110S
// Function : 0=Default 1=VK_ESCAPE 2=VK_F13 3=VK_F14 4=VK_F17 5=VK_F18 6=SIP on/off
7=VK_RETURN   8=excute application1 9=excute application 10=VK_SPACE
// BLUE/YELLO : 0=Default(VK_F14) 1= VK_ESCAPE 2= VK_F13   3= VK_F17   4=VK_F18   5=
SIP_BUTTON    6=VK_RETURN 7=excute application1 8=excute application 9=VK_SPACE
//
// MC7101S, MC7501S, MC7701S
// Function : 0=Default 1=VK_ESCAPE 2=VK_F13 3=VK_F14 4=VK_F17 5=VK_F18 6=VK_SPACE 7=VK_RETURN
8=SIP ON/OFF   9=excute application1 10=excute application2 11=Winodws Key 12=Home 13=PgUp 14=End 15=PgDn
16=None
//
// BLUE/YELLOW (only non GSM) : 0=VK_ESCAPE 1=VK_F13 2=VK_F14 3=VK_F17 4=VK_F18 5=VK_SPACE
6=VK_RETURN 7=SIP ON/OFF 8=excute application1 9=excute application2 10=Winodws Key 11=Home 12=PgUp
13=End 14=PgDn 15=None
//
//////////////////////////////////////////////////////////////////////////////////////
// MM3 SideKeyz
// Function : 0:None 1:Default 2:SIP ON/OFF 3:VK_APP1 4:VK_APP2 5:VK_RETURN 6:VK_CONTROL 7:VK_SHIFT
8:VK_ESCAPE 9:Launch Program1 10:Launch Program2 11:Launch Program3
```

//
//

[M3SKY_SIDE_KEY]

```
Install=0
LEFTDOWN=0
LEFTUP=0
RIGHTDOWN=0
RIGHTUP =0
Blue=0
Yellow=0
SOFT1=0
SOFT2=0
```

[M3SKY_SIDE_KEY_QWERTY]

```
Install=0
Only_SendEnd=0
LEFTDOWN=0
LEFTUP=0
RIGHTDOWN=0
RIGHTUP=0
SOFT1=0
SOFT2=0
SEND=0
END=0
SCAN=0
TAB=0
ACTION=0
LEFT=0
RIGHT=0
UP=0
DOWN=0
```

From the file, change the value of Install to 1 and assign a value according to the function to each button as you like. Then, copy the modified M3.INI back to the StartUp folder. Customization will be applied after soft reset of the device.

MM3

MM3 Key Customization

Both 55-key version (Left) and 41-key version (Right) of MM3 has 9 customizable keys as shown in the figure below.

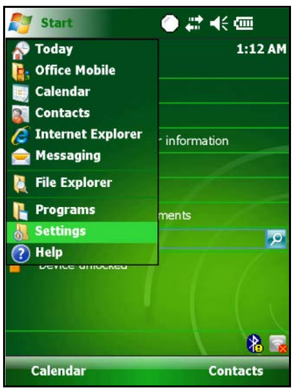


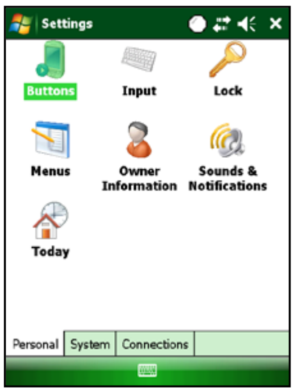
There are 3 ways to customize the keys:

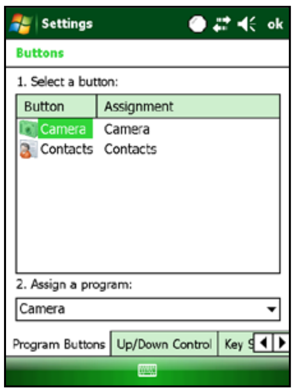
1. Using Windows Mobile GUI
2. Using VisualINI
3. Editing M3.INI

1. Using Windows Mobile GUI

Those keys can be customized as the following (screenshots are taken using 55-key version):

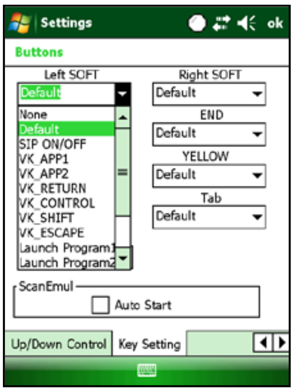






1. Gently tap the Start button and from the drop-down menu, select Settings.
2. In the Settings select [Buttons]
3. Select Side Key Setting





4. From the Key Setting Window, those 9 keys can be customized.

You can assign the following functions to the keys. All 9 keys have the same customization options.

None	Disable the button
Default	Default value of the key.
SIP ON/OFF	Toggles Soft Input Panel.
VK_APP1	Virtual key to start application 1.
VK_APP2	Virtual key to start application 2.
VK_RETURN	Virtual key for Return.
VK_CONTROL	Virtual key for Control.
VK_SHIFT	Virtual key for Shift.
VK_ESCAPE	Virtual key for Escape.
Launch Program 1	Launches a program assigned to Program 1.
Launch Program 2	Launches a program assigned to Program 2.
Launch Program 3	Launches a program assigned to Program 3.
Launch Program 4	Launches a program assigned to Program 4.
VK_M3SCAN	Scan key for Telnet Program. Key Value: 0x9C
VK_ACTION	Virtual key for Action.

2. Using VisualINI

To use VisualINI, first you need to install it. To install manually, you can click VisualINI.CAB in Driver folder of Flash Disk or to install automatically after reset, set install value of [VISUALINI_INSTALL] to 1 in m3.ini file.

If VisualINI is installed, you can find StartUp icon at [Start] -> [Settings] -> [Systems] as shown in figure 2.1.



Figure 2.1 VisualINI



Figure 2.2 Device setup

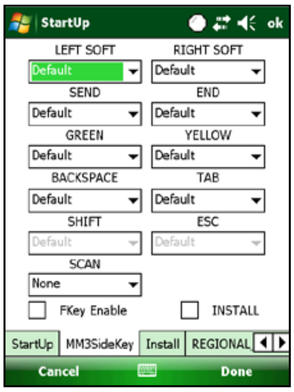


Figure 2.3 Side key setting

In the StartUp window, user must set the correct device model then, click 'OK' button to confirm it. Before going to the next step, the device must go through soft reset. Then, launch StartUp again to customize the keys.

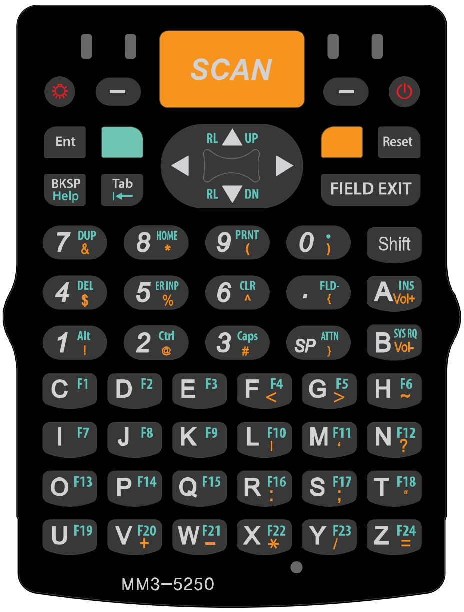
From figure 2.2, go to MM3SideKey window for key customization. MM3 SideKey customization window is shown in figure 2.3. Check 'INSTALL' if you want to keep the settings even after hard reset.

Note that from figure 2.3, SHIFT and ESC drop down menus are disabled because the screen shot is taken using MM3 with 55-key keypad. If 41-key version is used, BACKSPACE and TAB will be disabled and SHIFT and ESC fields are activated.

FKey Enable is available in B1ST(O/H)V645EN or later version. FKey Enable option is put in to the OS to make MM3 useful with Telnet programs such as IBM 5250/ IBM 3270 which uses F1 to F24.

This is why VK_M3SCAN is introduced. The default value of SCAN button is F14 which cannot be used in IBM 5250/ IBM 3270. When SCAN KEY is set to M3SCAN, the scanner will not work with M3 ScanEmul or ScanTest application.

If FKey is enabled, user can use F1 to F24 on green layer. Please refer to below MM3-5250 keypad.



Note that it has F1 to F24 on green layer on 'C' to 'Z'.

3. Editing M3.ini

By editing M3.INI file, you can customize the keys as well. M3.INI is located in the StartUp folder in the Flash Disk of the Device. To edit the file, you may require copying the file to your PC.

If you open M3.INI file, you will find the following section:

```
////////////////////////////////////////////////////////////////////////////////////////
// MM3 SideKeys
// Function : 0:None 1:Default 2:SIP ON/OFF 3:VK_APP1 4:VK_APP2 5:VK_RETURN 6:VK_CONTROL
// 7:VK_SHIFT 8:VK_ESCAPE 9:Launch Program1 10:Launch Program2 11:Launch Program3
//
////////////////////////////////////////////////////////////////////////////////////////

[MM3_SIDE_KEY]
Install=0
LEFTSOFT=1
RIGHTSOFT=1
SEND=1
END =1
GREEN=1
YELLOW=1
BACKSPACE=1
TAB=1
ESC=1
SHIFT=1
SCAN=0
EnableFKey=0
```

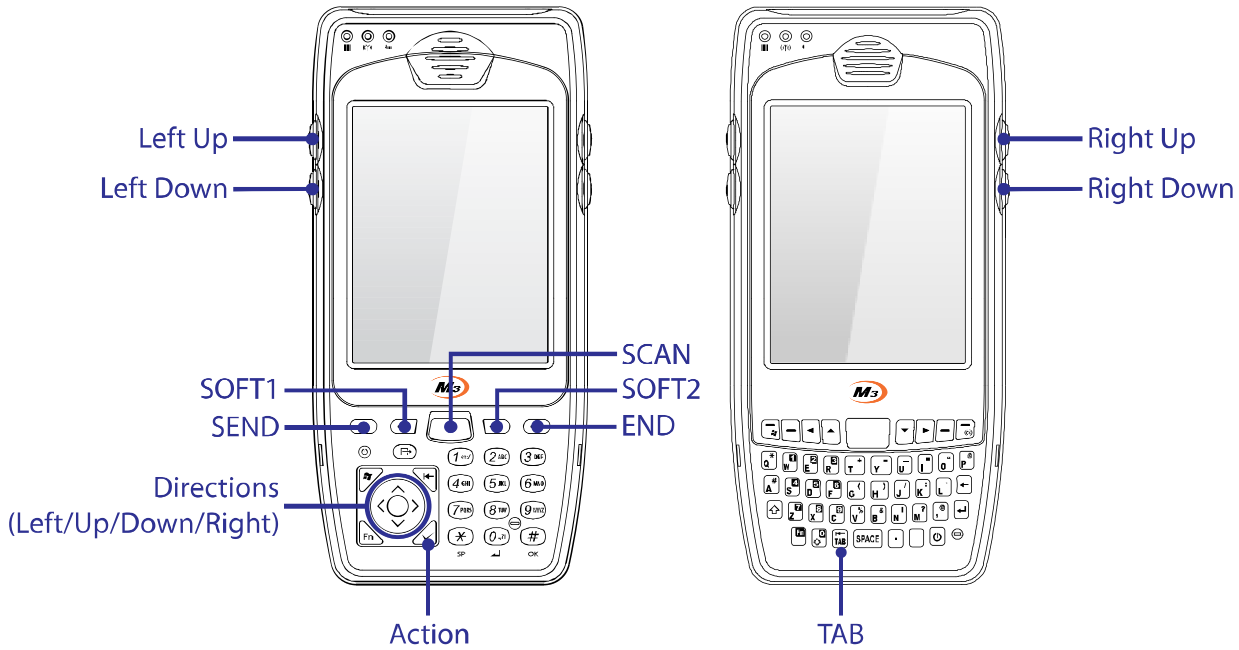
From the file, change the value of Install to 1 and assign a value according to the function to each button as you like. Then, copy the modified M3.INI back to the StartUp folder. Customization will be applied after soft reset of the device.

M3 ORANGE

M3 ORANGE Key Customization

M3 ORANGE provides very flexible key customization. In Alpha-numeric version, all physical buttons except the power button are customizable subject to the registry change method is used.

However, in general (GUI, M3.INI), only 14 buttons are customizable as shown below.



Customizable keys are: Left Up/Down, Right Up/Down, SEND/END, SOFT1/2, SCAN, Direction Keys, Action (Alpha-numeric only) and TAB (QWERTY only).

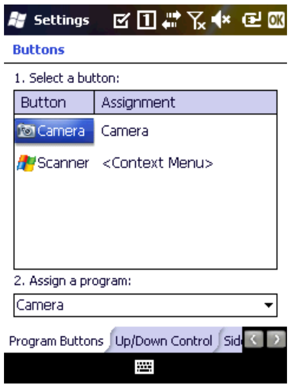
1. **GUI Method**

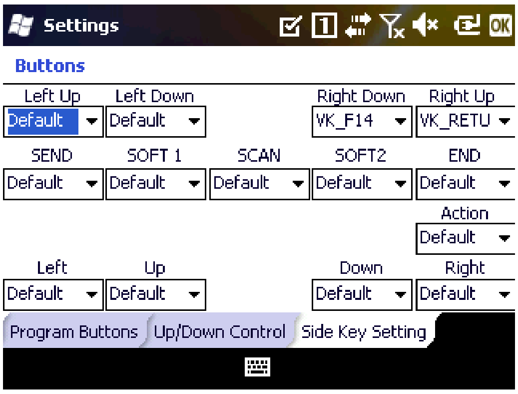
[Start] → [Settings] → [Personal] → [Buttons] → [Side Key Setting]



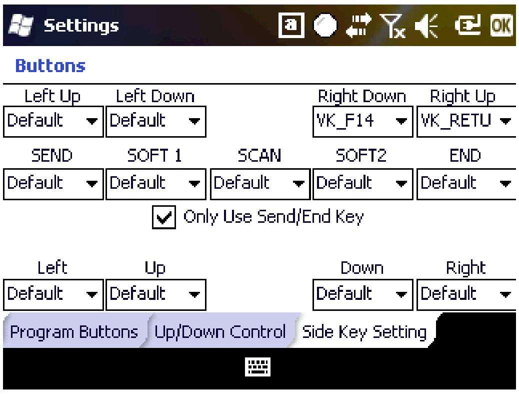








<Alpha-numeric>



<QWERTY>

All keys shown above can be set to one of the following.

0	Default	Default value of the keys
1	VK_ESCAPE	Virtual key for escape
2	VK_F13	Virtual key for F13
3	VK_F14	Virtual key for F14
4	VK_F17	Virtual key for F17
5	VK_F18	Virtual key for F18
6	VK_SPACE	Virtual key for space
7	VK_RETURN	Virtual key for return
8	SIP ON/OFF	Toggles soft input panel
9	Application 1	User defined application1
10	Application 2	User defined application2
11	Windows	Windows key
12	Home	Home key
13	PgUp	Page Up key
14	End	End key
15	PgDn	Page Down key
16	Disable	Disable the button
17	VK_ACTION	Virtual key for Action
18	. (PERIOD)	Dot or full stop
19	, (COMMA)	Comma

When 'Only Use Send/End Key' option is checked in QWERTY device, it will not function as window or OK on ORANGE layer input mode. In other words,  + ( or ) do not act as  or .

User can customize the keys as required follow by OK button at the top right corner.

2. M3.INI Method

By editing M3.INI file, you can customize the keys as well. M3.INI is located in the StartUp folder in the Flash Disk of the Device. To edit the file, you may require copying the file to your PC.

If you open M3.INI file, you will find the following section:

`M3Orange`

Function   : 0=Default 1=VK_ESCAPE 2=VK_F13 3=VK_F14 4=VK_F17 5=VK_F18 6=VK_SPACE 7=VK_RETURN 8=SIP ON/OFF 9=excute application1 10=excute application2 11=Winodws Key 12=Home 13=PgUp 14=End 15=PgDn 16=None 17=.(PERIOD) 18=,(COMMA)

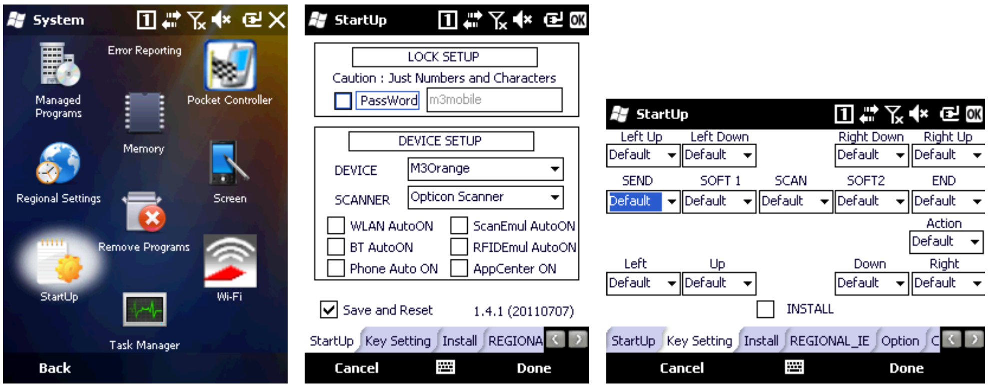
[M3ORANGE_SIDE_KEY]	[M3ORANGE_SIDE_KEY_QWERTY]
Install=0	Install=0
LEFTUP=0	LEFTUP=0
LEFTDOWN=0	LEFTDOWN=0
RIGHTDOWN=0	RIGHTDOWN=0
RIGHTUP =0	RIGHTUP=0
SEND=0	SEND=0
SOFT1=0	SOFT1=0
SCAN=0	SCAN=0
SOFT2=0	SOFT2=0
END=0	END=0
ACTION=0	LEFT=0
LEFT=0	UP=0
UP=0	DOWN=0
DOWN=0	RIGHT=0
RIGHT=0	TAB=0
	Only_SendEnd=0

From the file, change the value of Install to 1 and assign a value according to the function to each button as you like. Then, copy the modified M3.INI back to the StartUp folder. Customization will be applied after soft reset of the device.

3. VisualINI Method

To use VisualINI, first you need to install it. To install manually, you can click VisualINI.CAB in Driver folder of Flash Disk or to install automatically after reset, set install value of [VISUALINI_INSTALL] to 1 in m3.ini file.

If VisualINI is installed, you can find StartUp icon at [Start] → [Settings] → [Systems] → [StartUp]

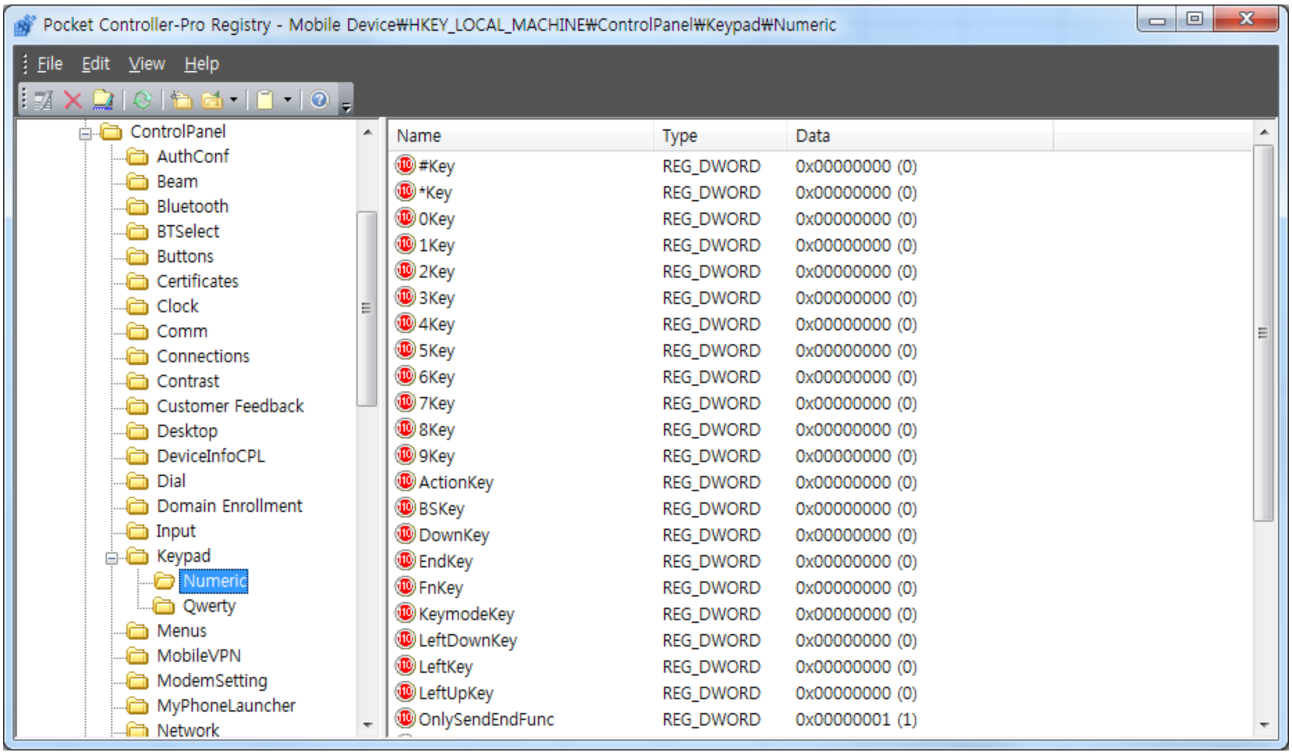


VisualINI provides the same function as the M3.INI file but with GUI. Hence, user can utilize VisualINI where directly editing M3.INI is not possible.

Make sure INSTALL checkbox is checked to make the modification affected.

4. Registry Change

Under registry path: `HKEY_LOCAL_MACHINE\ControlPanel\Keypad\Numeric` or `QWERTY`, user will find all button keys and values. Sample is shown below.



User can change the value of each key from 0 to 18 as required.

How to figure out the each Virtual Key value in Window Mobile?

Please download KeyMonitor program and place into the device.
When any key pressed, each key value will be shown up as up/down for each purpose.

With this key value you need to develop the wedge program(key value transformed) for your goal.

M3 T

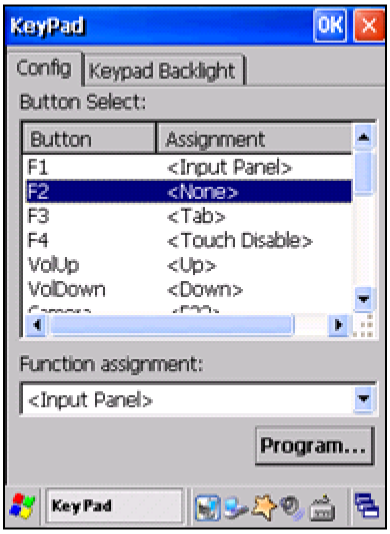
Key Setting

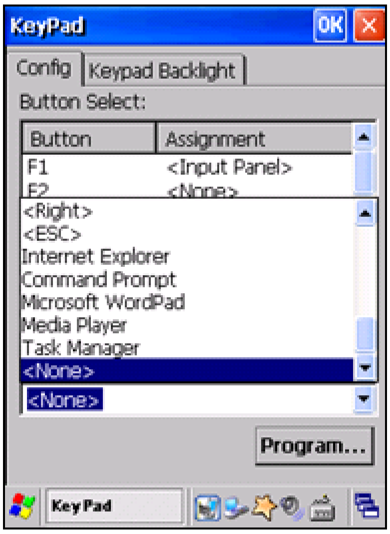
i. How to disable the Numbers / Characters Switch key.

In M3 T, F2 functions to switch between numbers and characters.
Follow below steps to disable F2 function.

Move to Start→Settings→Control Panel→Keypad option.

Set function assignment for F2 to.





ii. How to use F5 key instead of F4 key?

Please modify the registry value as below.

dword [HKEY_LOCAL_MACHINE\System\MobileCompia\KeyPad\F4] Enable: 1
dword [HKEY_LOCAL_MACHINE\System\MobileCompia\KeyPad\F4] Flags: 0
dword [HKEY_LOCAL_MACHINE\System\MobileCompia\KeyPad\F4] VKey: 116

Furthermore other keys are available to switch mapping by referring to below link path.
http://help.adobe.com/en_US/AS2LCR/Flash_10.0/help.html?content=00000520.html,
key code of F5 is 116. Therefore, I have set F4 to 116 and it worked

iii. How to figure out the each Virtual Key value?

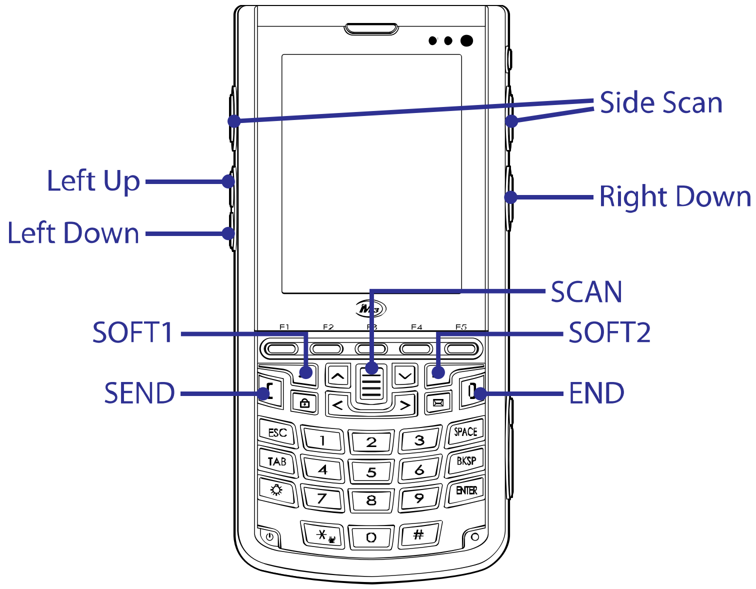
Please download KeyMonitor program and place into the device.
When any key pressed, each key value will be shown up as up/down for each purpose.

With this key value you need to develop the wedge program(key value transformed) for your goal.

M3 SMART (WM6.5)

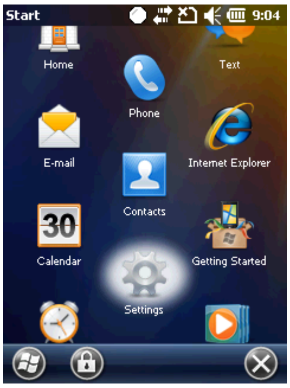
M3 SMART (WM6.5) Key Customization

M3 SMART with Windows Mobile 6.5 provides 9 customizable keys as shown below.



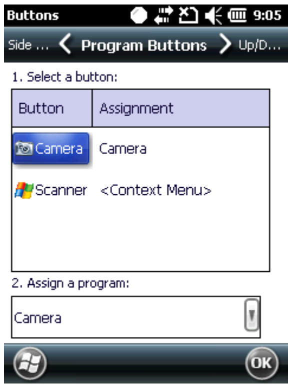
1. GUI Method

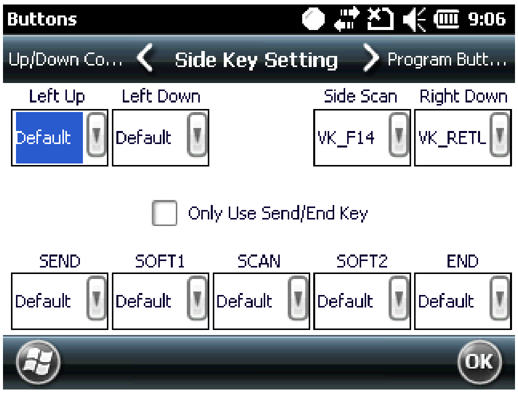
[Start] → [Settings] → [Personal] → [Buttons] → [Side Key Setting]











All keys shown above can be set to one of the following.

0	Default	Default value of the keys
1	VK_ESCAPE	Virtual key for escape
2	VK_F13	Virtual key for F13
3	VK_F14	Virtual key for F14
4	VK_F17	Virtual key for F17

5	VK_F18	Virtual key for F18
6	VK_SPACE	Virtual key for space
7	VK_RETURN	Virtual key for return
8	SIP ON/OFF	Toggles soft input panel
9	Application 1	User defined application1
10	Application 2	User defined application2
11	Windows	Windows key
12	Home	Home key
13	PgUp	Page Up key
14	End	End key
15	PgDn	Page Down key
16	VK_ACTION	Virtual key for Action
17	None	Disable the button

When 'Only Use Send/End Key' option is checked, SEND and END field is disabled and not customizable.

2. Mapping Applications

User can launch user defined application by pressing a button if it is set correctly. User can define 2 applications as shown in above table: Application 1 and Application 2.

The application must be in .exe file format and it can be set by setting a correct path in registry.

Path : HKEY_LOCAL_MACHINE\ControlPanel\Keypad\MultiFunc
Key : P1Path (for application 1)
: P2Path (for application 2)
Value : {.exe file location}

Example of assigning ScanEmul to Application 1 using StartUp.inf is shown below.

```
RegSetValue=/s string [HKEY_LOCAL_MACHINE\ControlPanel\Keypad\MultiFunc] P1Path :
"\Flash Disk\Scanner\ScanEmul.exe"
```

3. M3.INI Method

By editing M3.INI file, you can customize the keys as well. M3.INI is located in the StartUp folder in the Flash Disk of the Device. To edit the file, you may require copying the file to your PC.

If you open M3.INI file, you will find the following section:

```
// M3SMART SideKey
// Function : 0=Default 1=VK_ESCAPE 2=VK_F13 3=VK_F14 4=VK_F17 5=VK_F18
// 6=VK_SPACE 7=VK_RETURN 8=SIP ON/OFF 9=excute application1
// 10=excute application2 11=Winodws Key 12=Home 13=PgUp 14=End 15=PgDn
// 16=VK_ACTION 17=None
// F1~F10key is the expansion key.
```

[M3SMART_SIDE_KEY]
Install=1
OnlySendEndFunc=1
VolumeUpKey=0
VolumeDownKey=0
	//F1Key=0
	//F2Key=0
	//F3Key=0
	//F4Key=0
	//F5Key=0

RightDownKey=7	//F6Key=0
SideUpKey=3	//F7Key=0
SendKey=0	//F8Key=0
Soft1Key=0	//F9Key=0
ScanKey=0	//F10Key=0
Soft2Key=0	
EndKey=0	
TabKey=0	
SpaceKey=0	
BkspKey=0	
EnterKey=0	
LeftKey=0	
UpKey=0	
RightKey=0	
DownKey=0	
WindowKey=0	
OKKey=0	
ShiftKey=0	
LockKey=0	

From the file, change the value of Install to 1 and assign a value according to the function to each button as you like. Then, copy the modified M3.INI back to the StartUp folder. Customization will be applied after soft reset of the device.

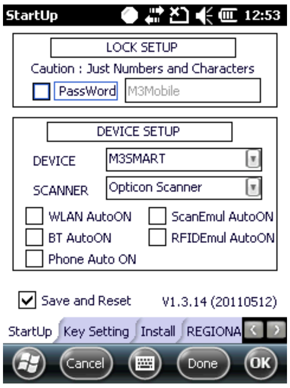
To assign functions or applications to F keys, uncomment the entry in M3.ini.
i.e. remove // at the front of the entry.

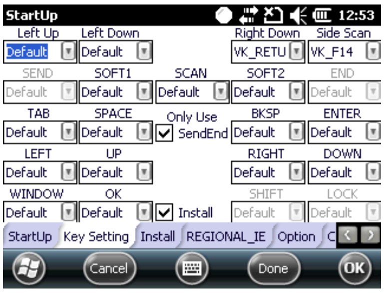
4. VisualINI Method

To use VisualINI, first you need to install it. To install manually, you can click VisualINI.CAB in Driver folder of Flash Disk or to install automatically after reset, set install value of [VISUALINI_INSTALL] to 1 in m3.ini file.

If VisualINI is installed, you can find StartUp icon at [Start] → [Settings] → [Systems] → [StartUp]





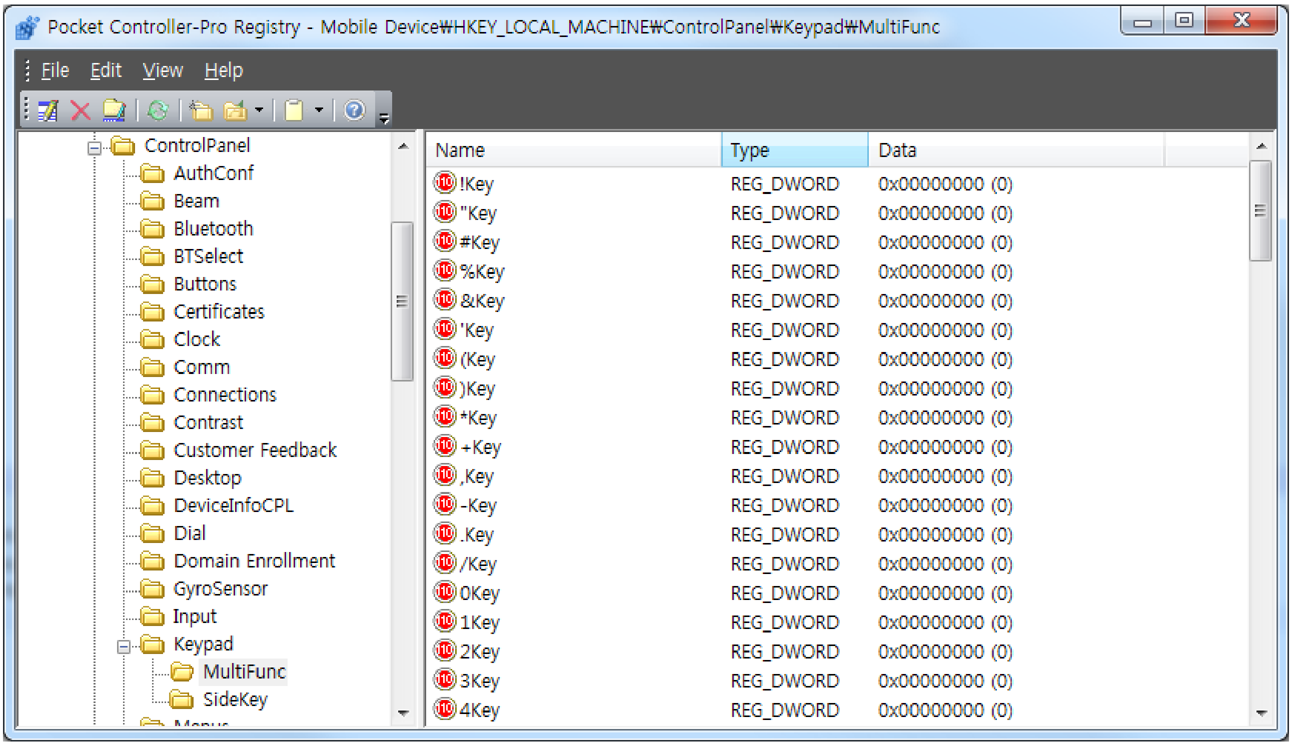


VisualINI provides the same function as the M3.INI file but with GUI. Hence, user can utilize VisualINI where directly editing M3.INI is not possible.

Make sure INSTALL checkbox is checked to make the modification affected.

5. Registry Change

Under registry path: `HKEY_LOCAL_MACHINE\ControlPanel\Keypad\MultiFunc`, user will find all button keys and values. Sample is shown below.



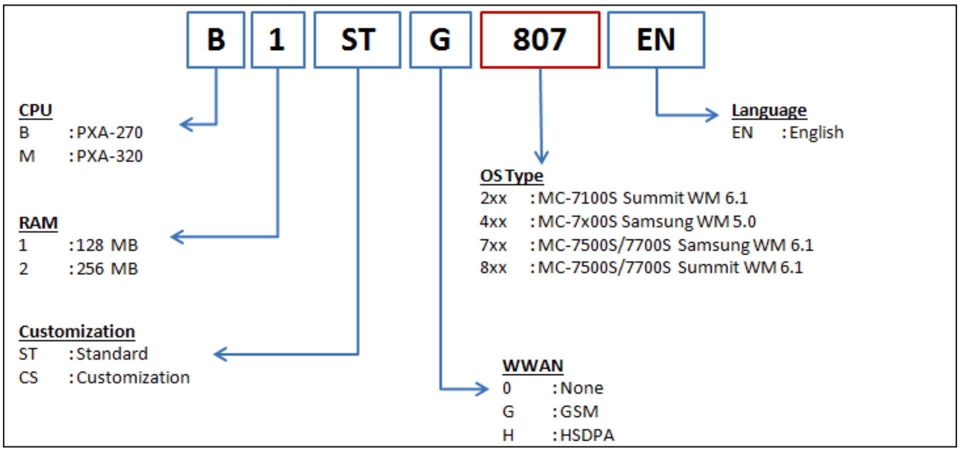
User can change the value of each key from 0 to 17 as required.

8. OS

Common

OS naming rule

Please refer to below description of OS naming rule (SKY basis).
The three numbers in red rectangle differentiate the device between Samsung WLAN and Summit WLAN. Between them, the OS IS NOT COMPATIBLE each other so please make sure your WLAN type matches with OS that you are going to update.



OS Update via One-click Update

M3 Models Support One-click OS update

Please refer to below table for available PDA and OS versions.

Brand	Model	Board	OS	OS Version
M3 SKY	MC-7100S	Summit	WM6.1	All
			WM5.0	Not Supported
		Samsung	WM6.1	718 or later
			WM5.0	N/A
	MC-7500S/7700S	Summit	WM6.1	All
			WM5.0	Not Supported
		Samsung	WM6.1	723 or later
			WM5.0	N/A
MM3	MC-8000S	Summit	WM 6.1	645 or later

Please check the OS version by following below route.
M3 SKY : Start\Settings\System\Device Info\System
MM3 : Start\Settings\System\Device Info\System

SD Memory Support

Maximum supported SD memory size on M3 PDAs

The maximum size of supported SD card depends on the operating system NOT on the hardware. Please see the below list.

Brand	OS	Max. SD size
M3 RED	Windows CE 4.2	2 GB
M3 GREEN	Windows CE 5.0	4 GB
M3 T, M3 POS	Windows CE 5.0	32 GB
M3 SMART CE	Windows CE 6.0	32 GB
M3 SKY	Windows Mobile 5.0	2 GB
M3 SKY, MM3	Windows Mobile 6.1	32 GB
M3 ORANGE, M3 SMART WM	Windows Mobile 6.5	32 GB

The recommended SD card brands are SanDISK and Transcend. Other Cards are likely to work. However, these need to be tested to ensure they meet user requirements.

Note that since the SD memory size is limited by the OS, it will only support 2GB or less when updating OS using SD card(Only M3 Smart can use up to 32GB for OS update). Also, M3 RED does not support OS update via SD.

M3 RED / M3 GREEN

OS Update via Mini SD Card

CAUTION
Use fully charged battery or AC power while OS update process.
Every information or configurations will be removed after OS update.

Required files for OS update can be downloaded from **support webpage**.

1. Unzip downloaded file. It should contain .DI file. Ex) TBMCAC212_MCST274EN.DI

2. Copy the file to root folder of Mini SD card.

3. Turn off the device by pressing the reset button for approximately 5 seconds.

4. Insert the Mini SD card into the slot.



5. Press the power button and hold. While the power button is kept pressed, please press the reset button briefly.





6. On the screen the message, saying “Reading Image from Card”, will be displayed on the screen. OS install is completed by resetting when the message “Image Upgrade Complete!” is displayed on the screen.

OS update will remove the previous Flash Disk files. To copy the flash disk files back to the PDA, you can either use SD card or ActiveSync (via USB).

OS Update via USB Downloader

CAUTION
Use fully charged battery or AC power while OS update process.
Every information or configurations will be removed after OS update.

I. Installation

1. Download the USB_Downloader and OS update files to your PC.
   It can be downloaded from the support webpage .

2. Turn off the device by pressing the reset button for approximately 4 seconds.
   Remember, with hard reset you will lose all your data except the one in flash disk.

3. Press the power button and hold. While the power button is kept pressed, please press the reset button briefly.





4. At this moment you should be able to see ‘Waiting From USB… ’ message on M3 screen.

5. Place PDA on the cradle (connected to PC) or directly connect to PC via USB cable.

6. ‘Found New Hardware’ message will be displayed on your PC.

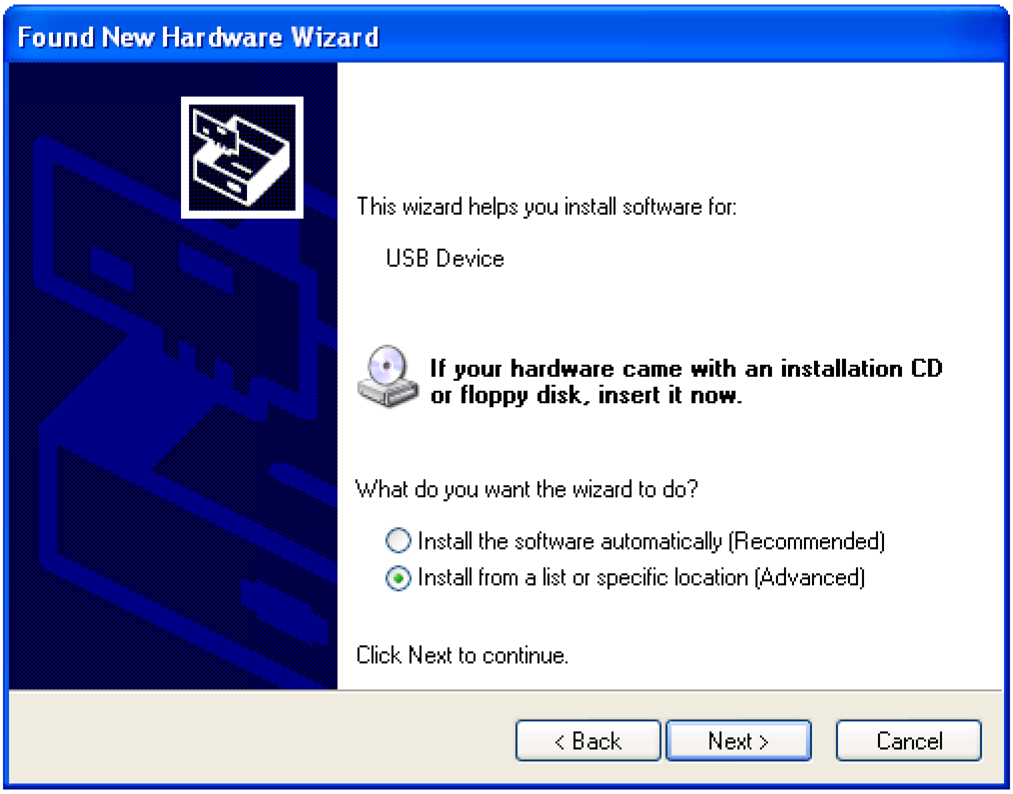


7. If the device is connected to the PC for the first time, Microsoft windows will start New Hardware Wizard automatically. From the options, choose “No, not this time”, then click “Next>” to proceed.



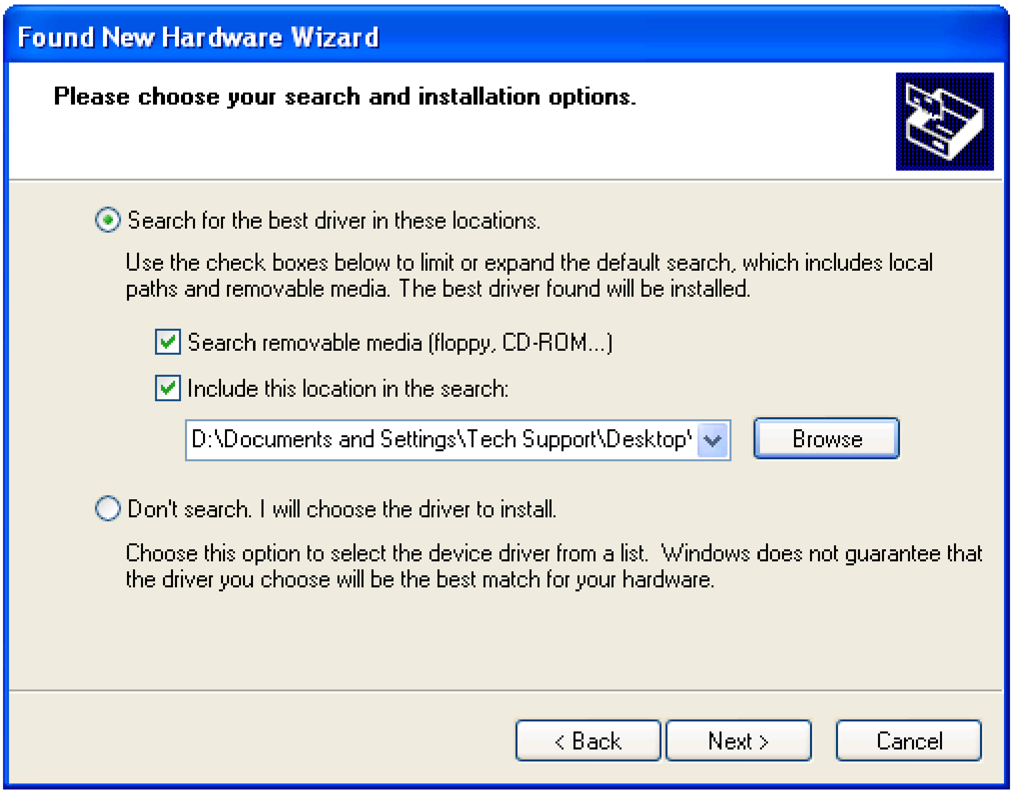
*If this is not the first time, please go to Step 11.

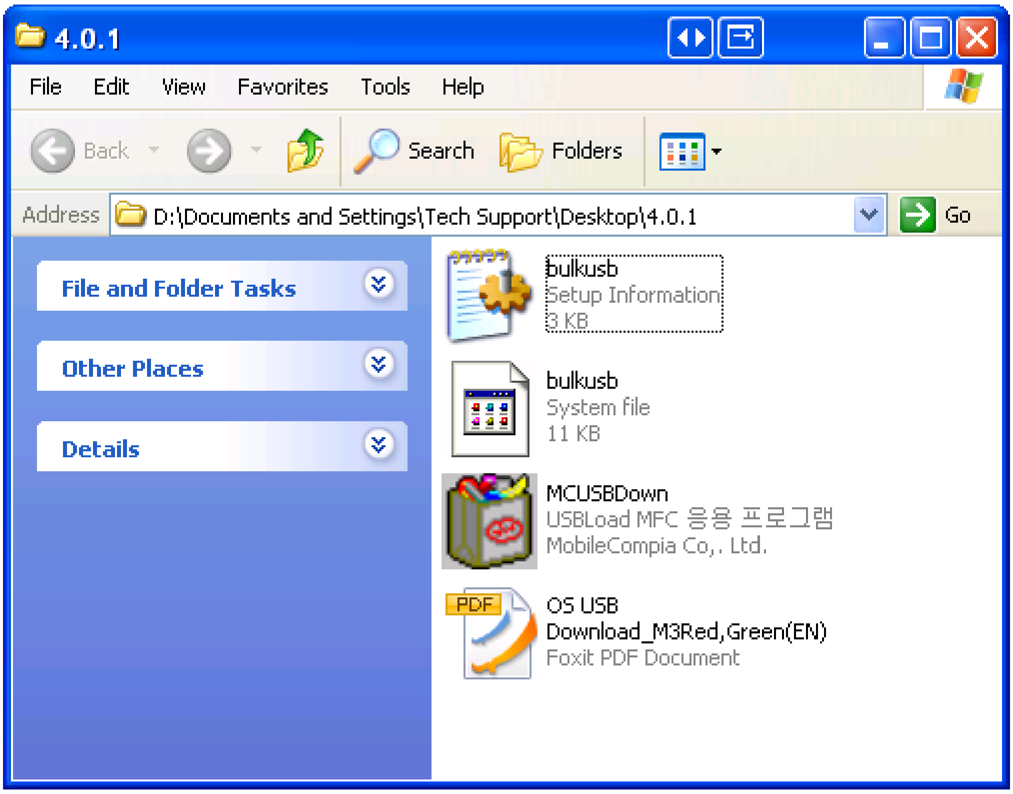
8. Choose "Install from a list or specific location (Advanced)" option then proceed.



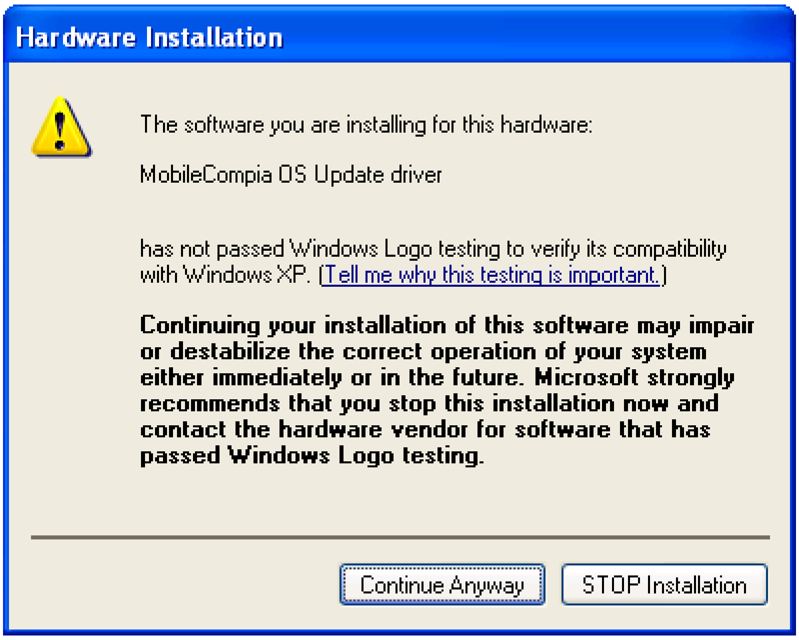
9. Check "Include this location in the search:" option then, specify the location of the folder which contains the driver files: bulkusb.sys, bulkusb.inf.

Usually those driver files are included in 4.0.1 folder.

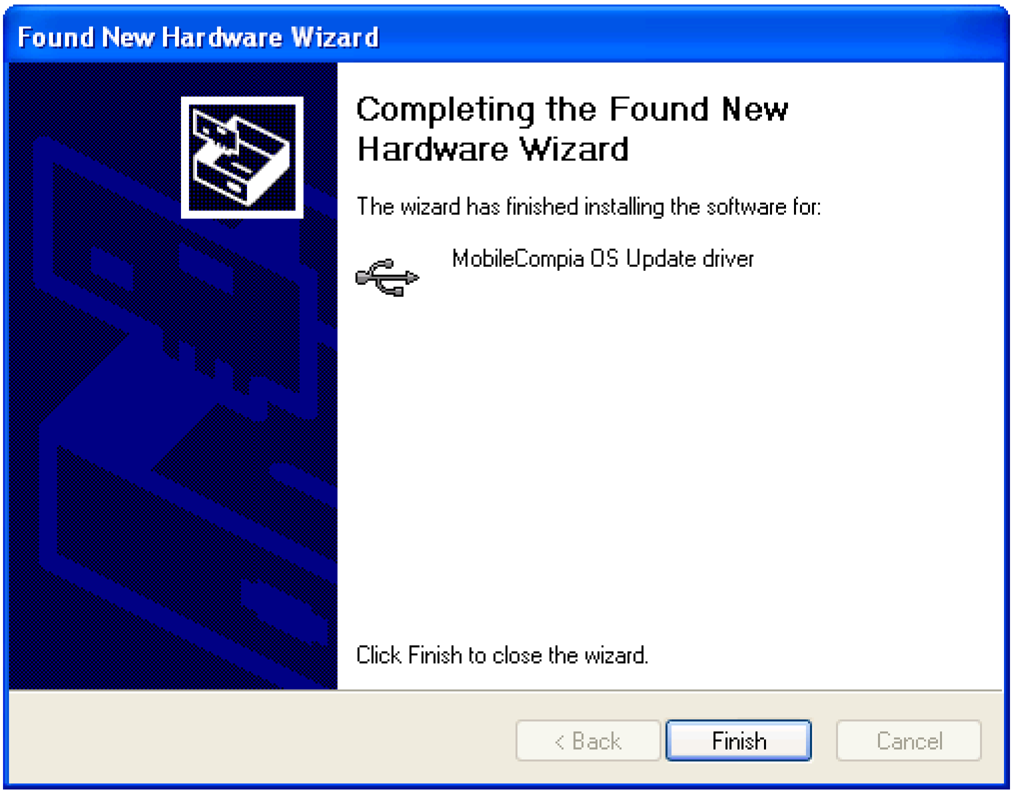




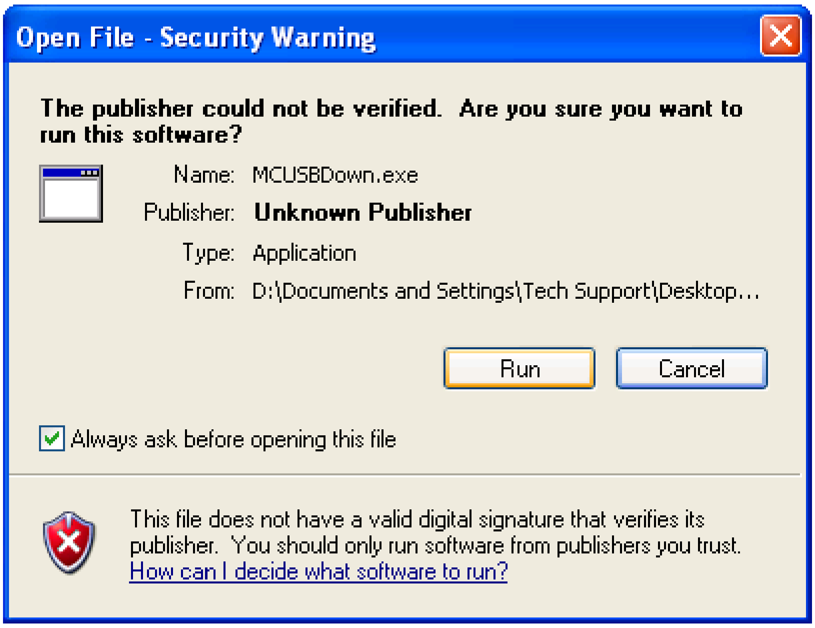
10. When the warning window appears, click “Continue Anyway”.



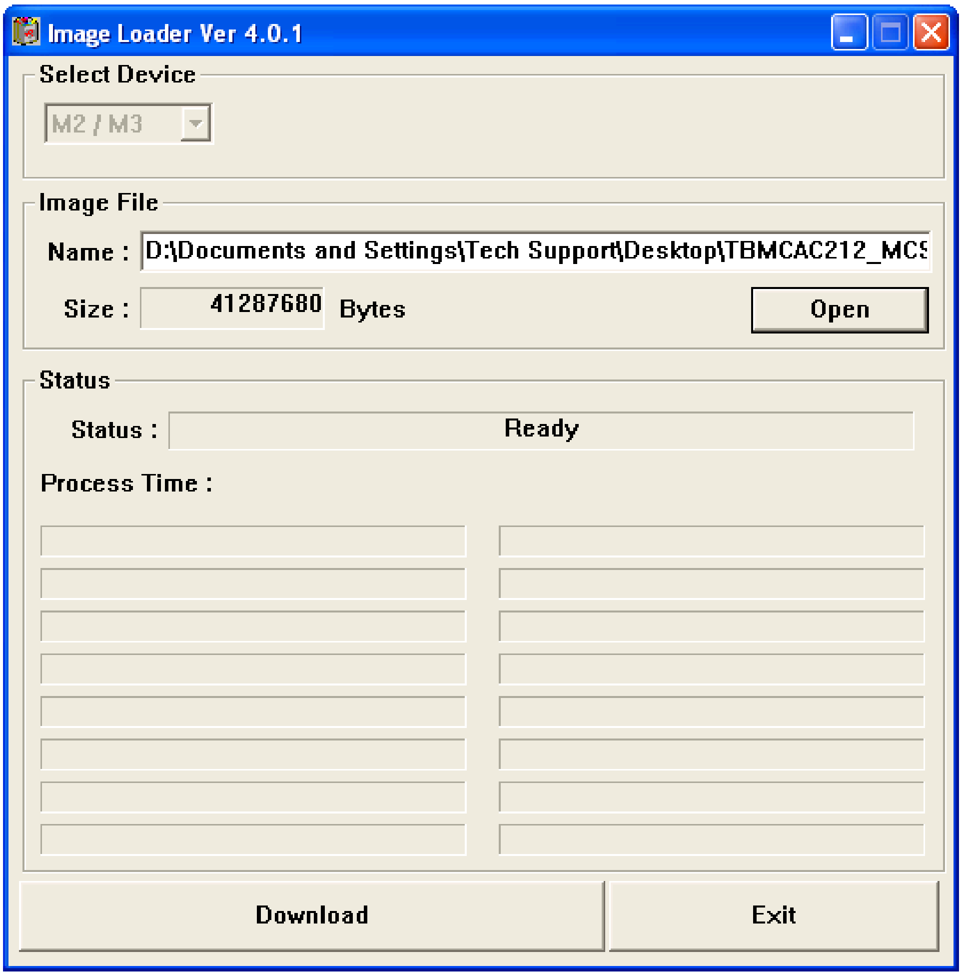
Then, click 'Finish' to complete driver installation.



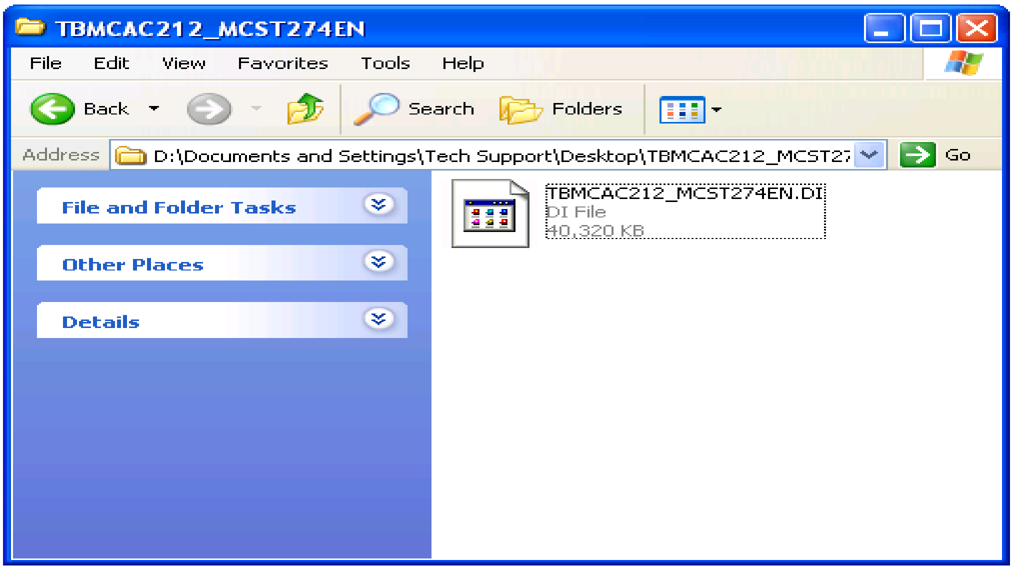
11. Run MCUSBDown.exe in 4.0.1 folder. Click 'Run' when the warning appears.



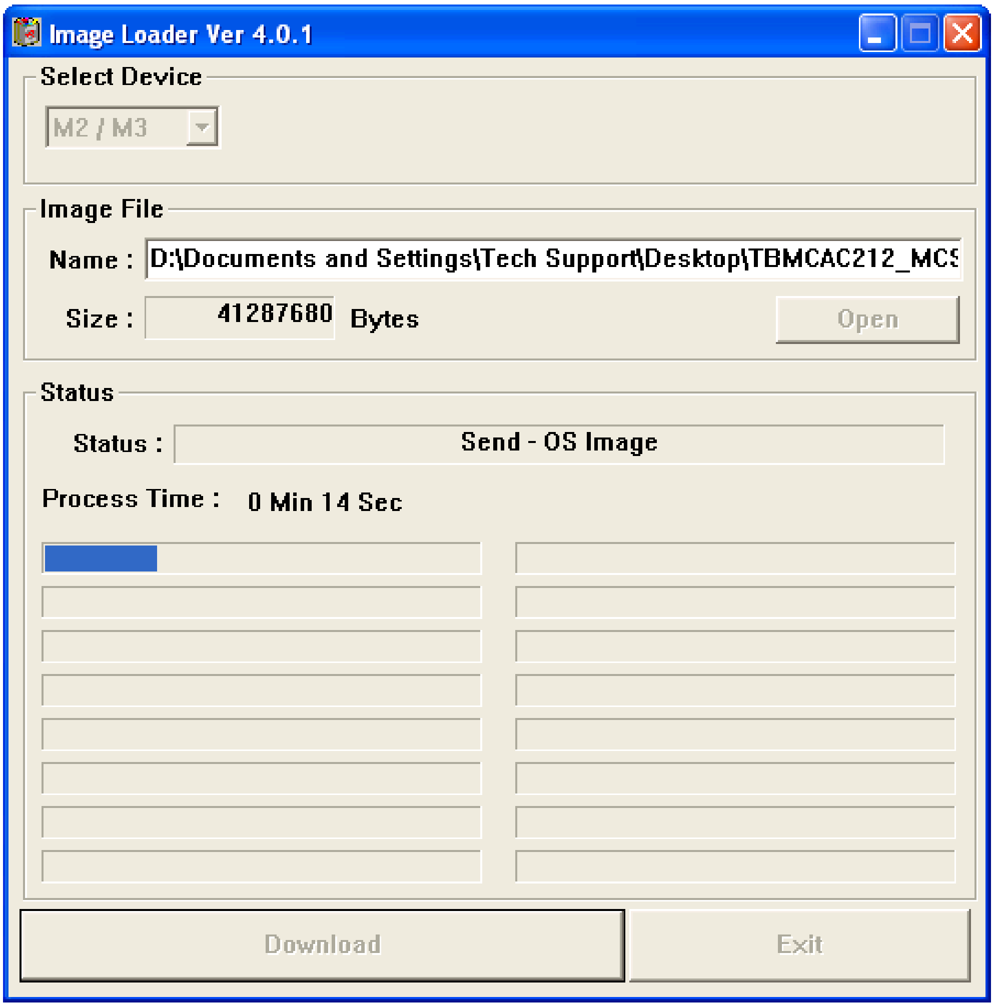
From Image Loader Ver 4.0.1, click 'Open' then select the OS image.



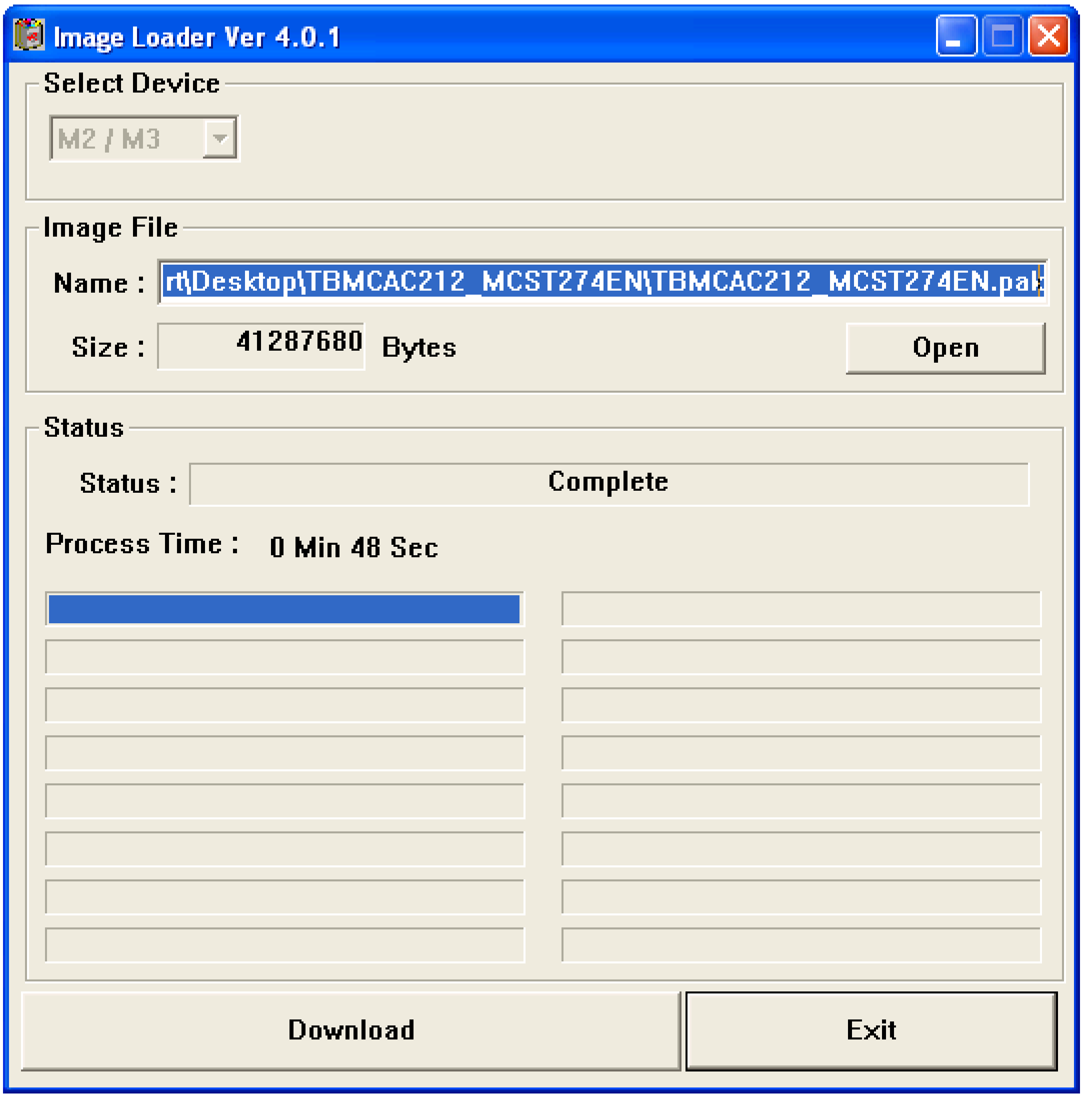
NOTE: If the downloaded OS file only contains .DI file, change the extension of the file to .PAK



12. Click 'Download' to start updating OS.



13. When the Status is Complete, click 'Exit' to complete OS writing.



14. When the new OS image is successfully written, it will show "Image Upgrade Complete!" on the PDA's screen.
    Then, reset the device to finish OS update procedure.

OS update will remove the previous Flash Disk files. To copy the flash disk files back to the PDA, you can either use SD card or ActiveSync (via USB).

M3 SKY / MM3

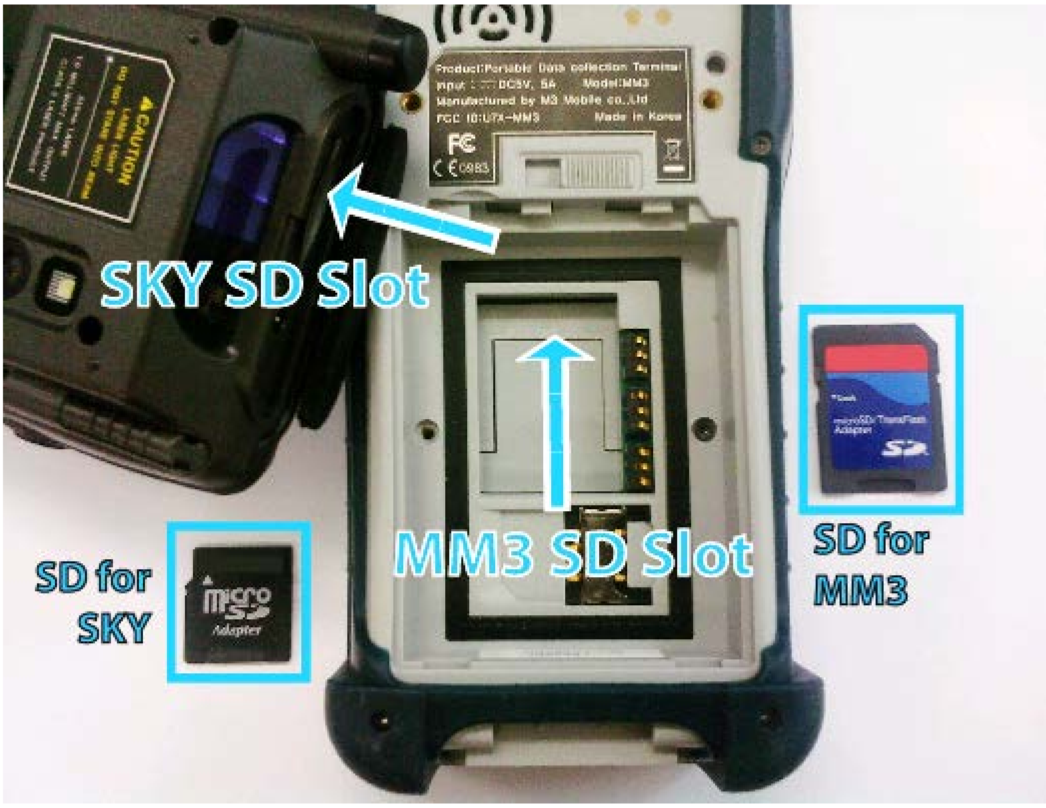
OS Update via (Mini) SD Card

CAUTION
Use fully charged battery or AC power while OS update process.
Every information or configurations will be removed after OS update.
Check first whether the WLAN module type is Summit or Samsung, or wrong OS update may cause severe damage to device leading to RMA process.

Required files for OS update can be downloaded from support webpage.

1. Formatting MiniSD - please format MiniSD card on PC in FAT (recommended) or FAT32 format.

2. Please copy OS image file (must in name FLASH.DIO), Boot image file (BOOT.NB0) and SPLASH.BMP to SD card and then insert it into the device.



Note that the SD Card for each device has different dimensions. SKY uses MiniSD and SD for MM3.

3. The device should be turned off first. The device power can be turned off by pressing the 'Power button' for 10 seconds.

4. Press the right arrow button and keep pressing. Press the power button briefly to enter Boot menu.

5. Select [1. Update] Press return button.

6. Select [1. SD Update] -> [2. BOOT Update]

7. Turn off the device by pressing the power button for 10 seconds. Then re-enter the boot menu.

8. Select [2. Format All] and press return button.
   'Format all partitions Confirm it' message will be displayed.

9. Select [1. Yes]
   'Format completed Update boot and OS' message will be displayed.
   Then, select [0. BACK] to enter Main MBoot MENU.

10. From the main boot menu, select [1. Update] -> [1. SD Update] -> [3. SPLASH Update].
    SPLASH update will update the image that is displayed when booting.
    To use your own image, you should have 240 x 320 pixel 24 bit bitmap file and save it as SPLASH.bmp.
    After successful update, return to the update menu.

11. Select [2. BOOT Update] N.B. We strongly recommend updating BOOT prior to OS update. 'BOOT. NB0 Write done' message will be displayed.
    Then, turn off the terminal again and re-enter the boot menu.

12. Select [1. Update] -> [1. SD Update] -> [1. OS Update] from the update menu.
    'Writing done. Reset Device!!' message will be displayed.
    Then, finish OS update by resetting the device.

[Format All] process will remove the previous Flash Disk files. To copy the flash disk files back to the PDA, you can either use SD card or ActiveSync (via USB).

OS Update via One-click Update

CAUTION

Use fully charged battery or AC power while OS update process.
Every information or configurations will be removed after OS update.
Check first whether the WLAN module type is Summit or Samsung, or wrong OS update may cause severe damage to device leading to RMA process.

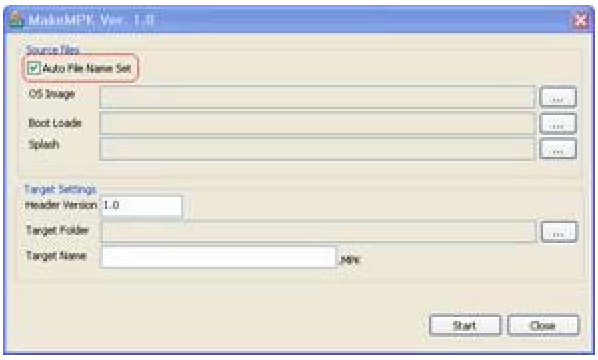
Required files for OS update can be downloaded from Support webpage.

Downloaded zip file will contain two folders: Oneclick_Update and SD_USB_Update.

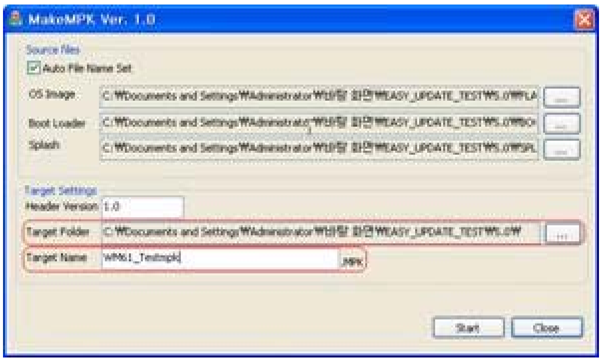
To use one-click update, simply copy the mpk file to the flash disk of the PDA and run it.
Then, it will automatically update splash, boot and OS, and reset.

In the case where the mpk file is not available, you can make mpk file using MakeMPK.exe.

1. Run MakeMPK.exe on your PC and select correct OS image, boot and splash file.
   ※ Auto File Name Set is checked - When selected OS Image folder that has the Boot and Splash file, the folder path will be set automatically. And Target Folder will also automatically set the path.



2. Select the Target Folder and Insert the Target Name. And press the Start button, a new file will be created on the Target Folder path.



3. Please store the created file on the SD card and insert the SD card in the device. Please run the file (.MPK) to proceed. OS update.

OS update will remove the previous Flash Disk files. To copy the flash disk files back to the PDA, you can either use SD card or ActiveSync (via USB).

OS Update via USB Downloader

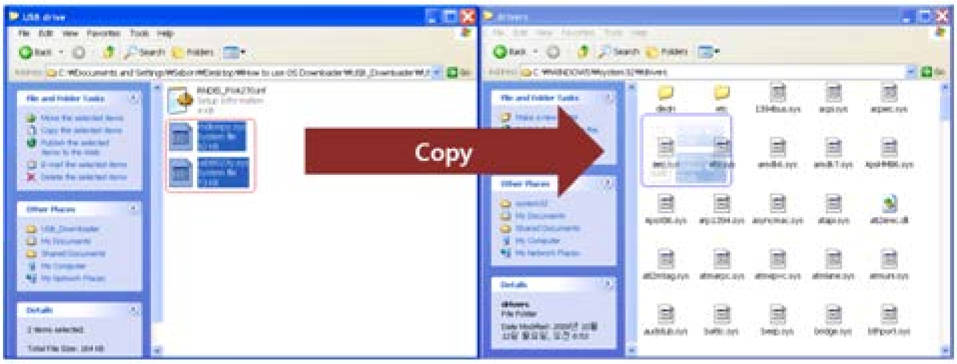
CAUTION

Use fully charged battery or AC power while OS update process.
Every information or configurations will be removed after OS update.
Check first whether the WLAN module type is Summit or Samsung, or wrong OS update may cause severe damage to device leading to RMA process.

I. Installation

1. Download the USB_Downloader and OS update files to your PC.
   It can be downloaded from the support webpage .

2. Copy the rndismpy.sys and usb8023y.sys files (in USB_Downloader-> USB drive) to on your PC in this path (Windows\System32\Drivers).



3. Turn off the device (The device power will be turned off by pressing the ‘Power button’ for ten seconds.)

4. Press the right arrow key then briefly press Power button. [MBOOT MENU] will be displayed.

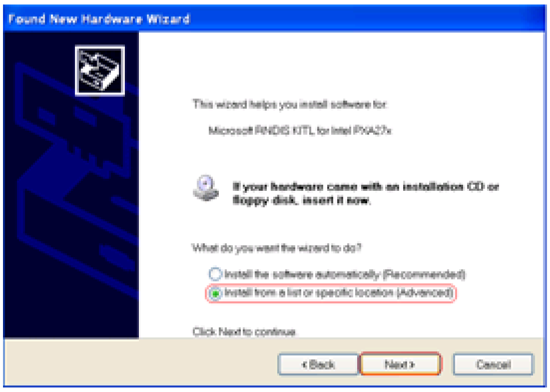
5. Please select [Update] -> [TFTP Update]   then select the requested updates.

6. On the screen ‘Waiting for USB connect…’ will be displayed.

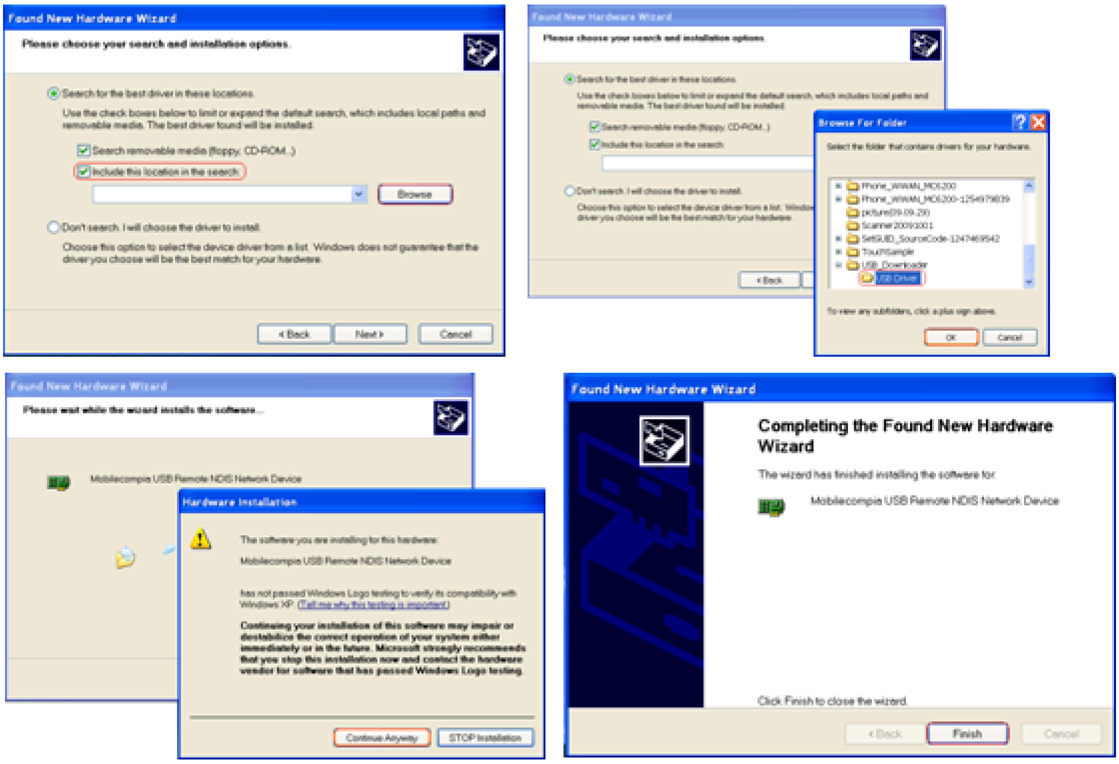
7. Please connect the device to PC via USB cable.

8. Now the PC will detect NEW hardware.





9. For install driver you have to browse the Folder in USB_Downloader -> USB Driver. The driver is called ‘RNDIS_PXA270.inf’.



10. Turn off the device (The device power can be turned off by pressing the 'Power button' for ten seconds.).

11. Press the right arrow key together with Power button. [MBOOT MENU] will be displayed.

12. Please select Update -> TFTP Update then select the requested updates.

13. On the screen 'Waiting for USB connect…' will be displayed.

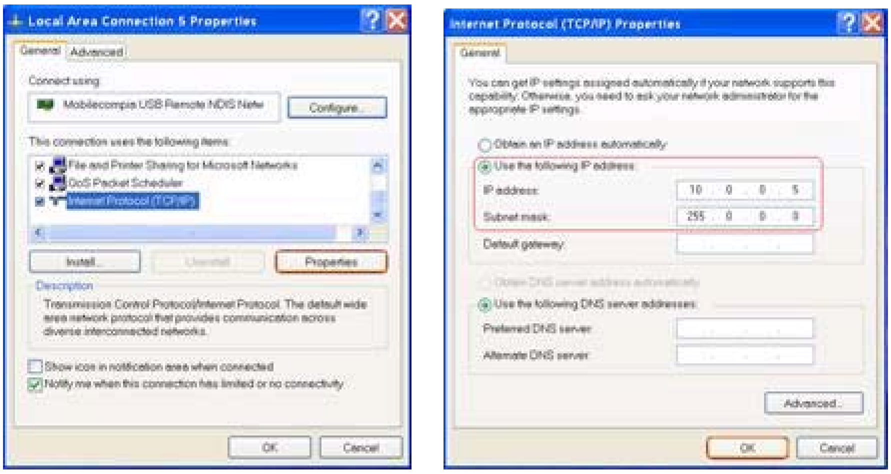
14. Please connect the device to PC via USB cable.

15. On your PC Network Connections -> MobileCompia Network -> Properties.



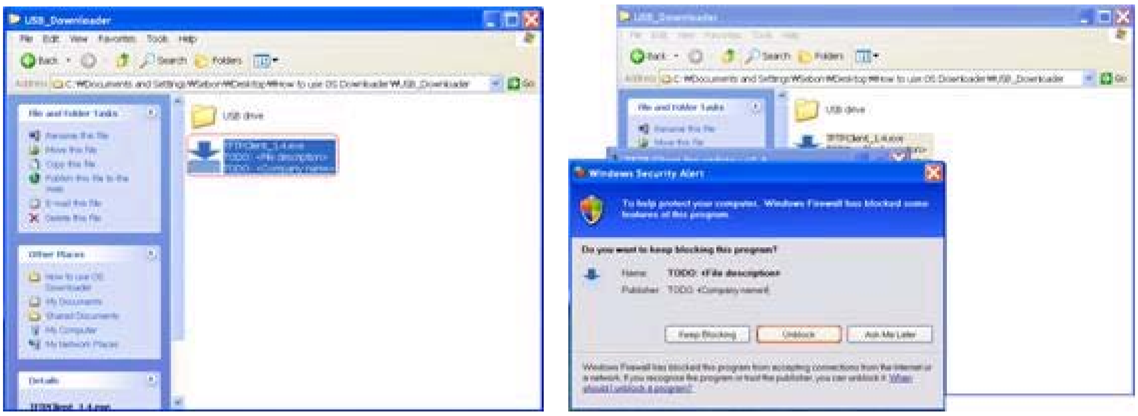
16. Internet Protocol (TCP/IP) -> Properties.

17. Set IP: 10.0.0.5 / Subnet Mask: 255.0.0.0

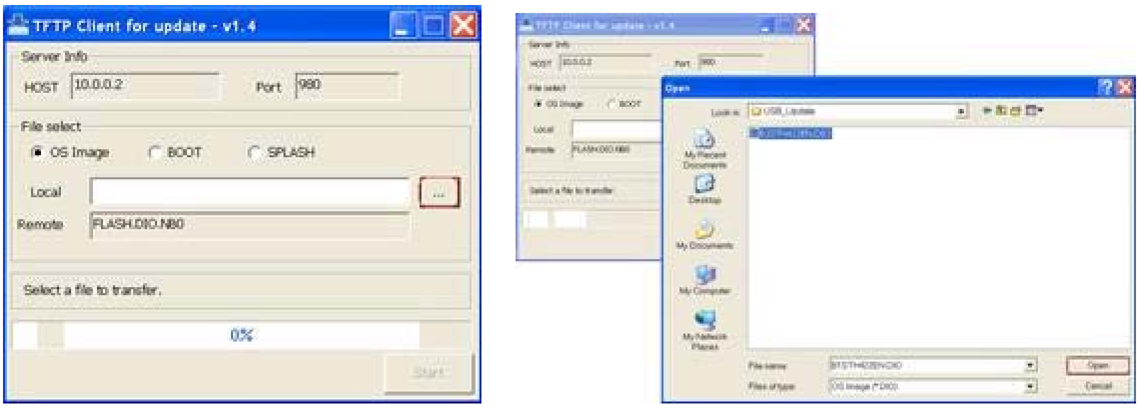


II. Upload OS

1. Run TFTPClientV1.4.exe in USB_Downloader.



2. Update OS in the order Splash -> Boot -> OS image.

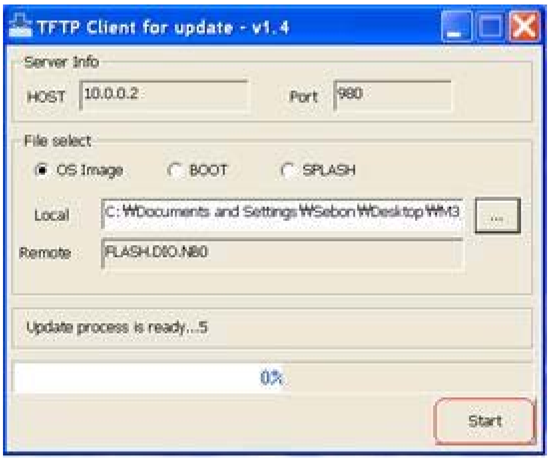


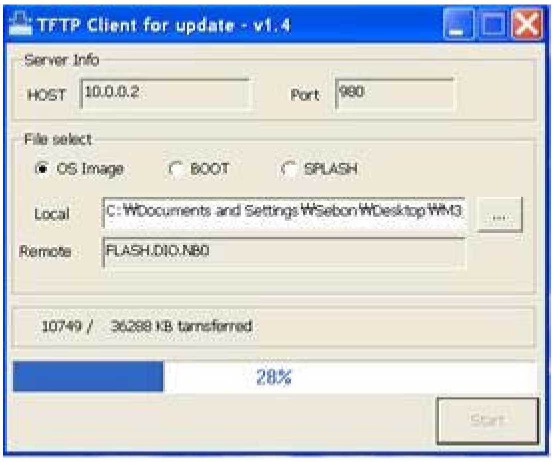
3. The device should be turned off first. Press the right arrow button and keep pressing. Press the power button briefly. The [MBOOT MENU] will be displayed.

4. From boot menu, select [Update] -> [TFTP Update].

5. The upload is ready to proceed, when you see the message 'Update process is ready' on the TFTP Client.

6. When you see above message, press 'Start' to begin the upload process.





CAUTION - Do not power off the device or remove Ethernet cable during this process.

OS update will remove the previous Flash Disk files. To copy the flash disk files back to the PDA, you can either use SD card or ActiveSync (via USB).

OS Update via USB in Windows 7 (M3 SKY)

CAUTION

Use fully charged battery or AC power while OS update process.
Every information or configurations will be removed after OS update.
Check first whether the WLAN module type is Summit or Samsung, or wrong OS update may cause severe damage to device leading to RMA process.

This method can only be used while you are using Windows 7. Because of Firewall on Windows 7, USB update method for Windows XP cannot be used to update OS

Also M3 SKY (Summit model only) must have installed compatible boot version to use this method.

- **MC-7100** series must have boot version installed higher than **MBoot V 4.1.5**
- **MC-7500** series must have boot version installed higher than **MBoot V 9.0.8**

You can check this information either from MBoot menu or from [Start]→ [Setting] → [System] → [Device Info].

Download M3 Black Driver from this Link. (Contents: M3BlackUSB.inf, M3BlackUSB.sys, USBLoad.exe)

Name	Date modified	Type	Size
M3BlackUSB	2011-10-31 오후 6:16	Setup Information	2 KB
M3BlackUSB.sys	2011-10-31 오후 6:16	System file	19 KB
USBLoad	2011-07-29 오후 1:40	Application	220 KB

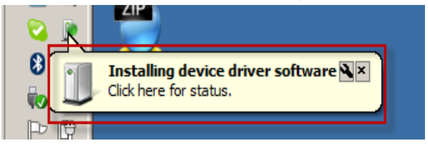
A. Get into Mboot Menu (Turn off the device first, while the device has turned off, press right directional key and tap power button.)

B. Select [1. Update] → [2. USB Update] → [1.Windows 7]

C. Place device on cradle and connect to PC via USB cable.

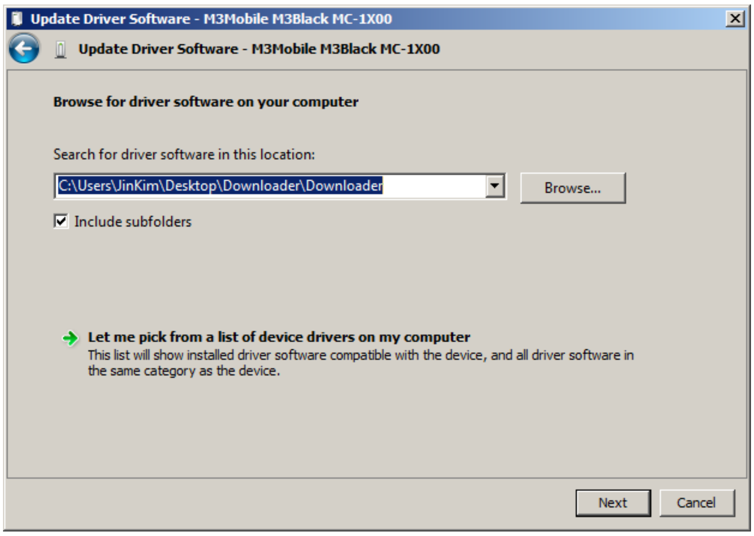
D. Your PC will show following message '**Installing device driver software**'

E. Move on to following paths Start->Device and Printer->Device manager and choose unknown device from lists below, right click on it and choose '**Update Driver**'.

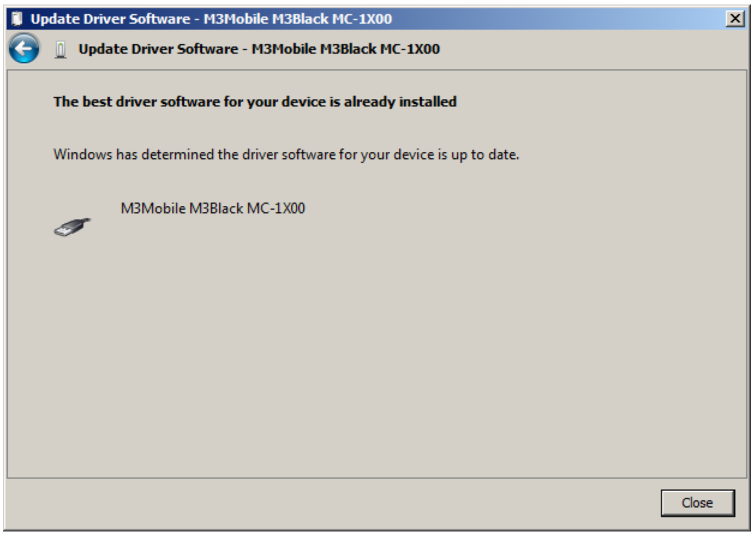


F. Once you got pop up window, choose '**Browse my computer for driver software.**'

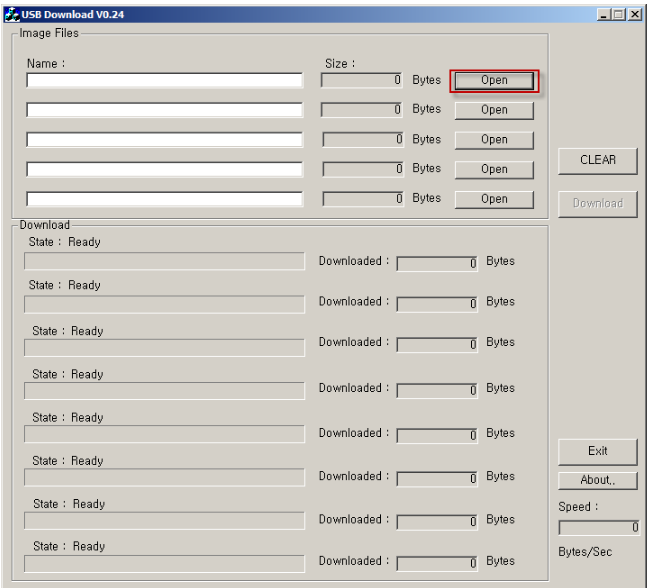
G. Choose '**SKY_Win7_Downloader**' folder which contains M3BlackUSB.inf, M3BlackUSB.sys.



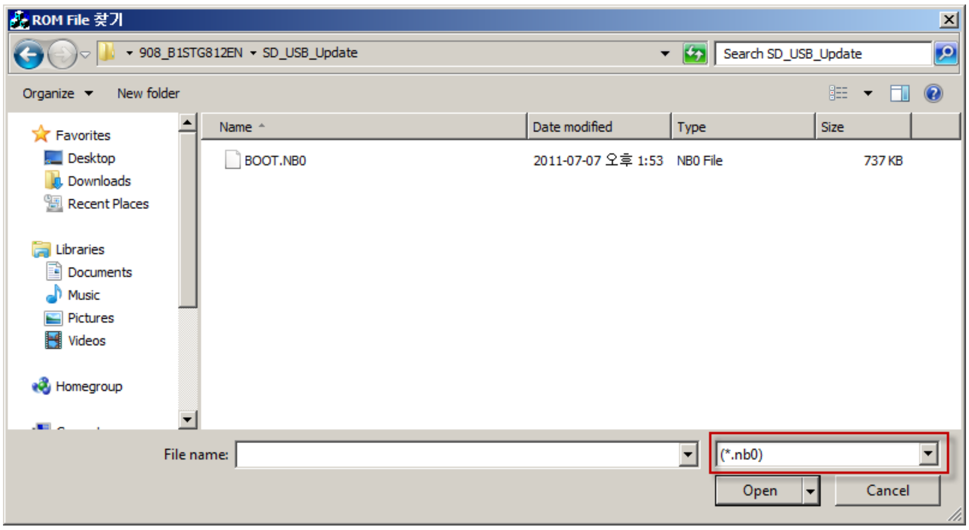
H. Once the installation is successfully done, you will be able to see, '**The best driver software for your device is already installed**' message.



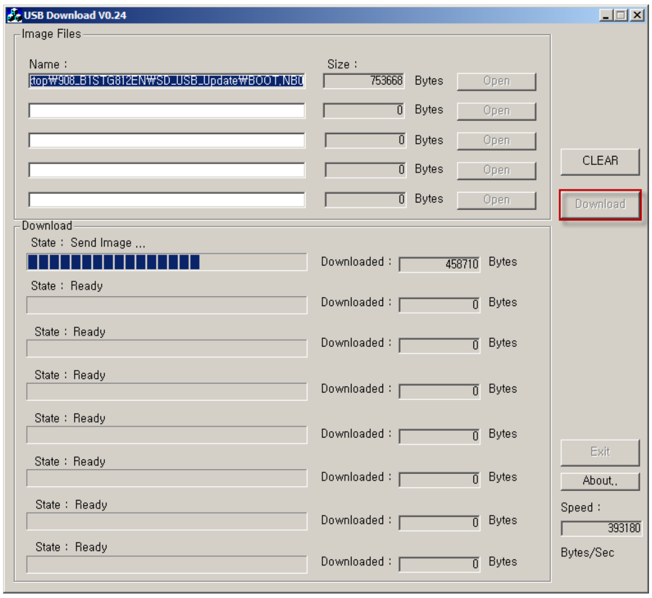
I. Run USBLoad.exe file which was downloaded with other files that you have used to install driver for device.



J. Click ‘Open’ and find Boot file manually, at this stage it could be handy for you to choose filename extension as ‘***.nB0**’ to make sure you are choosing right file to be installed.



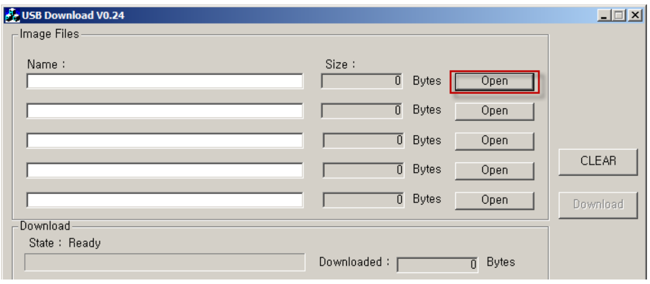
K. Once you have chosen the right file to be installed, click ‘**Download**’ on right hand side to process installation.



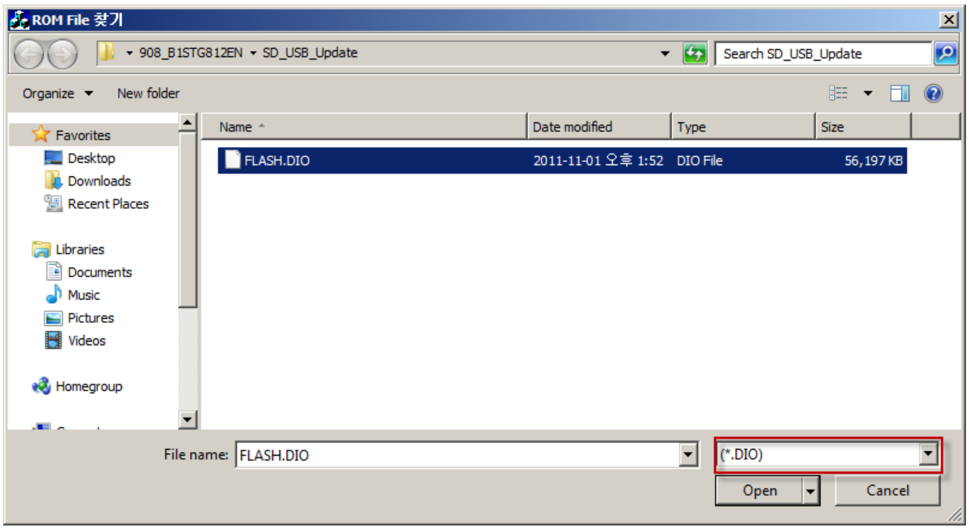
L. Once you see ‘**Write Done Reset device !!**’ message from the PC USBLoader, press ‘**0**’ from the device to proceed reset.

M. Turn off the device and remove it from the cradle, once you get into Mboot Menu, place the device at cradle again, you will be able to see ‘**USB Connected**’ message from the device screen.
[1. Update] → [2. USB Update] → [1. Windows 7]

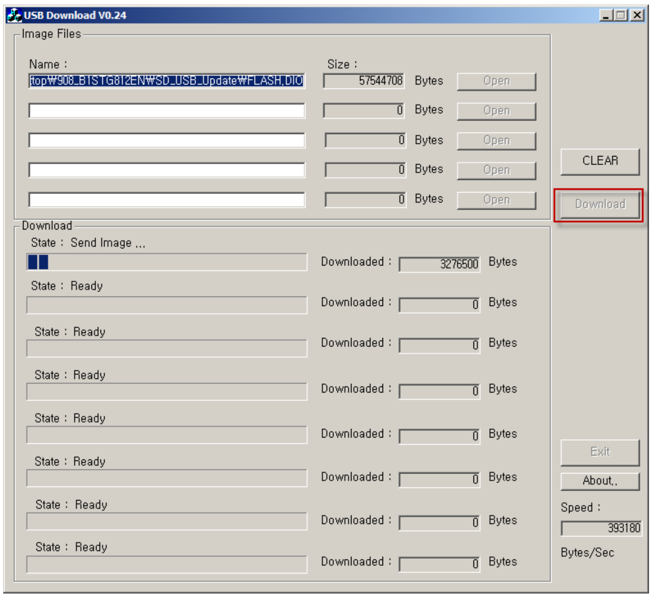
N. Click ‘Open’ on ‘**USBLoad.exe**’.



O. Choose OS Image file (Choose filename extension as *.DIO)



P. As above, press '**Download**' and wait until you get the message. '**All files Download Complete.**'



Q. Proceed reset from the device by press '**0.Reset**', once you see the message '**Write Done Reset device !!**'

M3 T

OS Update via Micro SD Card

CAUTION
Use fully charged battery or AC power while OS update process.
Every information or configurations will be removed after OS update.

Required files for OS update can be downloaded from **support webpage**.

1. Unzip downloaded file. It should contain 4 files: EBOOT.nb0, logo.bmp, MOBM_bc.nb0 and NK.bin.

2. Copy the file to root folder of Micro SD card.

3. Turn off the device by pressing the reset button for approximately 5 seconds.

4. Insert the Micro SD card into the slot. You can see the slot when you detach the battery.



5. Press RESET button while holding the power button. When the display turns on, release the power button and push it again to launch boot menu.



6. From the boot menu, select [3: SD Update]. It will start updating automatically. When 'Reset...' message appears on the screen, reset the device.

OS update will remove the previous Flash Disk files. To copy the flash disk files back to the PDA, you can either use SD card or ActiveSync (via USB).

OS Update via USB Downloader

CAUTION
Use fully charged battery or AC power while OS update process.
Every information or configurations will be removed after OS update.

I. Installation

1. Download the USB_Downloader and OS update files to your PC.
   It can be downloaded from the support webpage .

2. Turn off the device by pressing the reset button for approximately 4 seconds.
   Remember, with hard reset you will lose all your data except the one in flash disk.

3. Press RESET button while holding the power button. When the display turns on, release the power button and push it again to launch boot menu.



4. From the boot menu, choose “2: USB Update”. ‘Connect USB Cable… ’ message will appear at the bottom left corner of the LCD.

5. Place M3 T on the cradle and connect to a PC via USB cable.

6. ‘Found New Hardware’ message will be displayed on your PC.

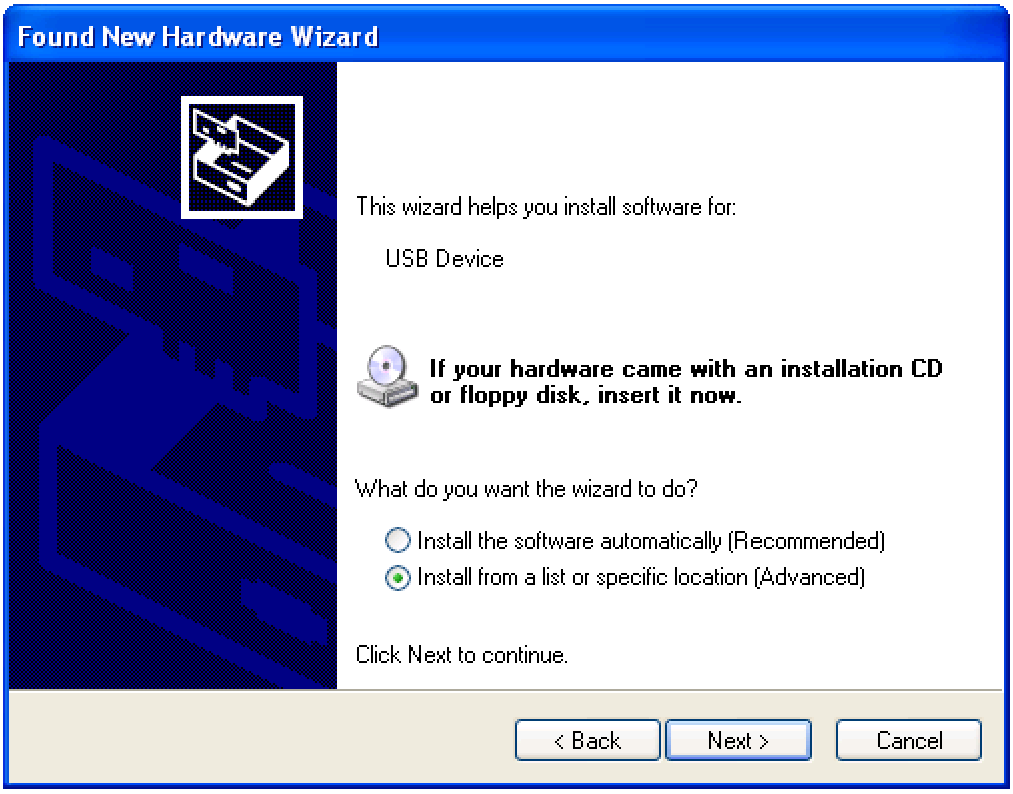


7. If the device is connected to the PC for the first time, Microsoft windows will start New Hardware Wizard automatically. From the options, choose “No, not this time”, then click “Next>” to proceed.

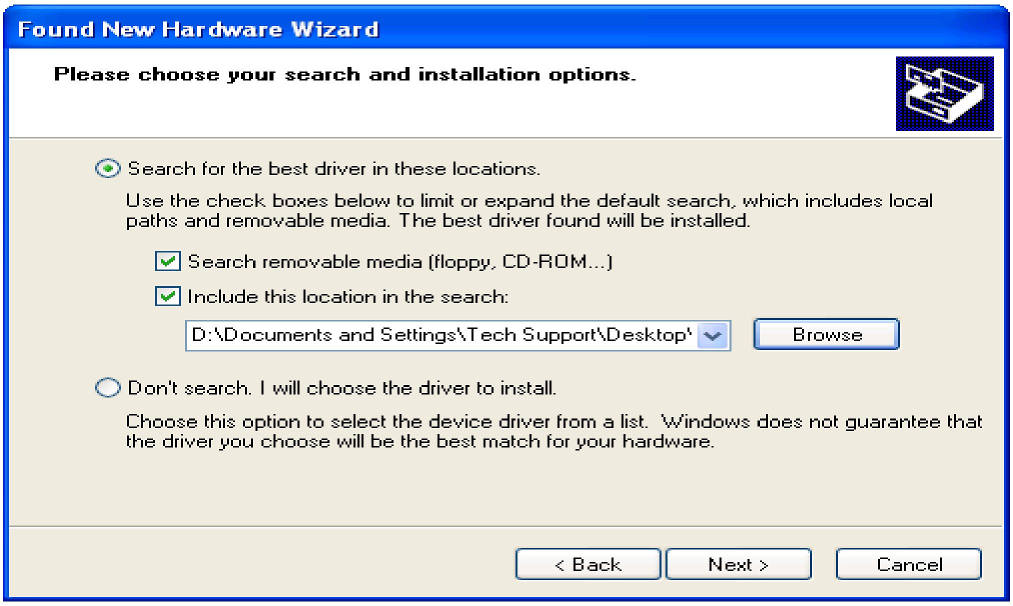


*If this is not the first time, please go to Step 11.

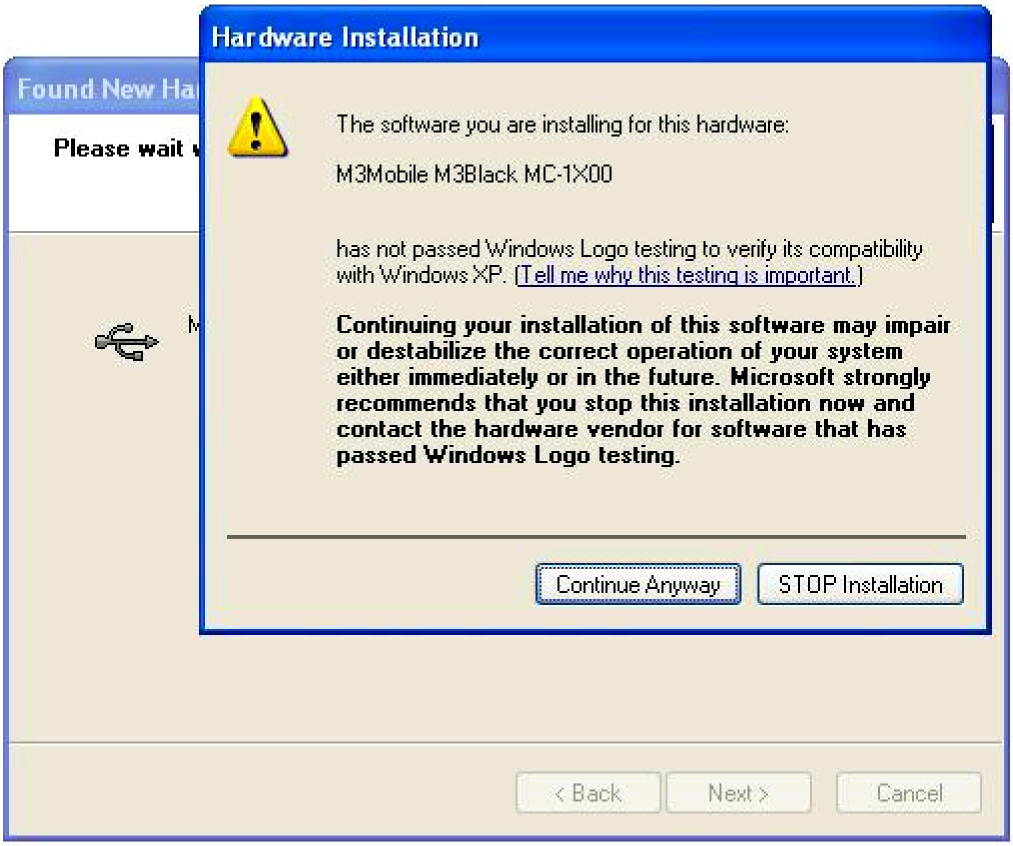
8. Choose “Install from a list or specific location (Advanced)” option then proceed.



9. Check “Include this location in the search:” option then, specify the location of the folder which contains the driver files: M3BlackUSB.sys, M3Black.inf.



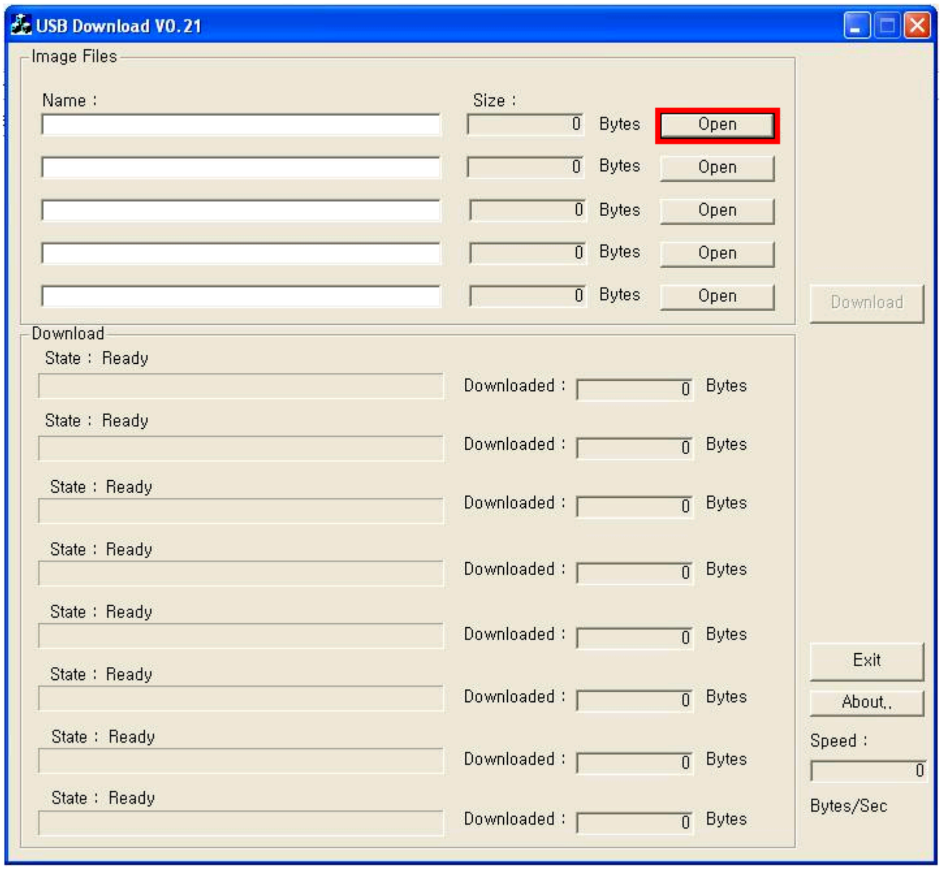
10. When the warning window appears, click “Continue Anyway”.



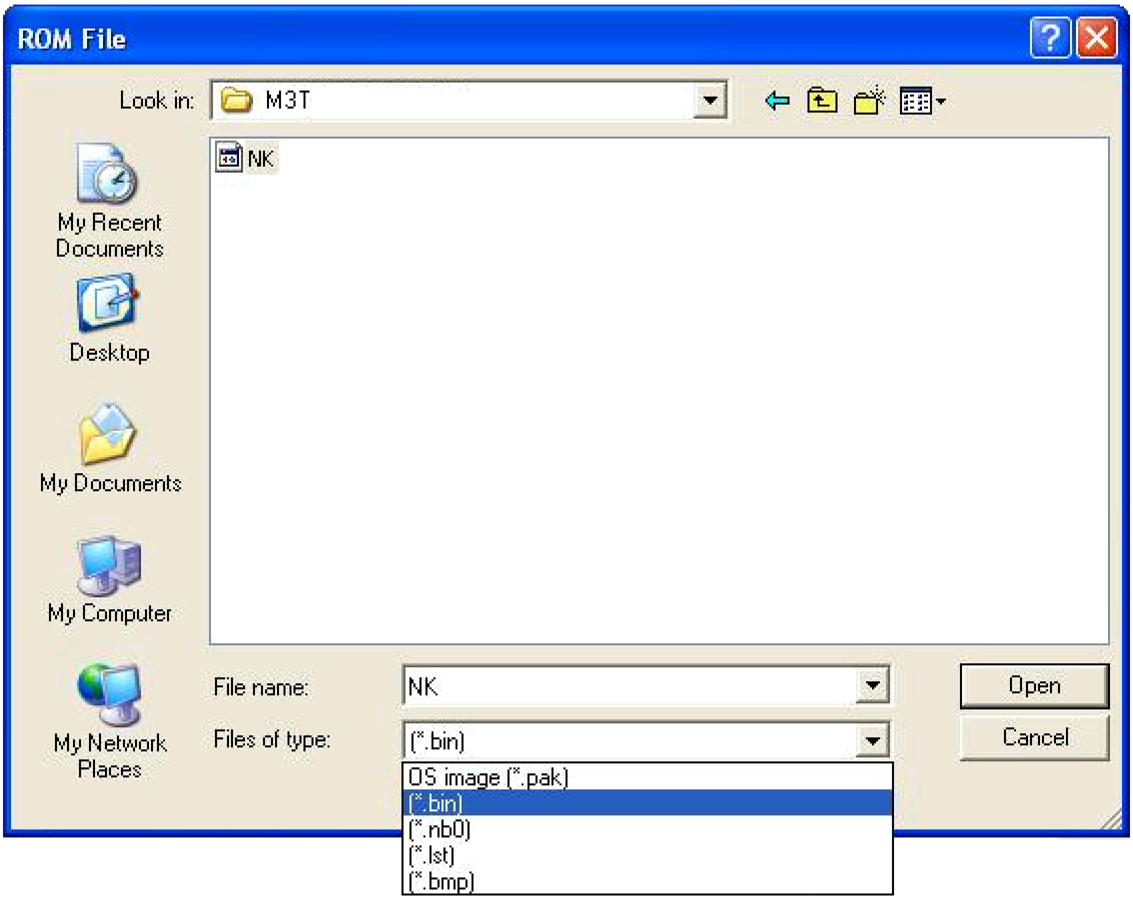
Then, click 'Finish' to complete driver installation.



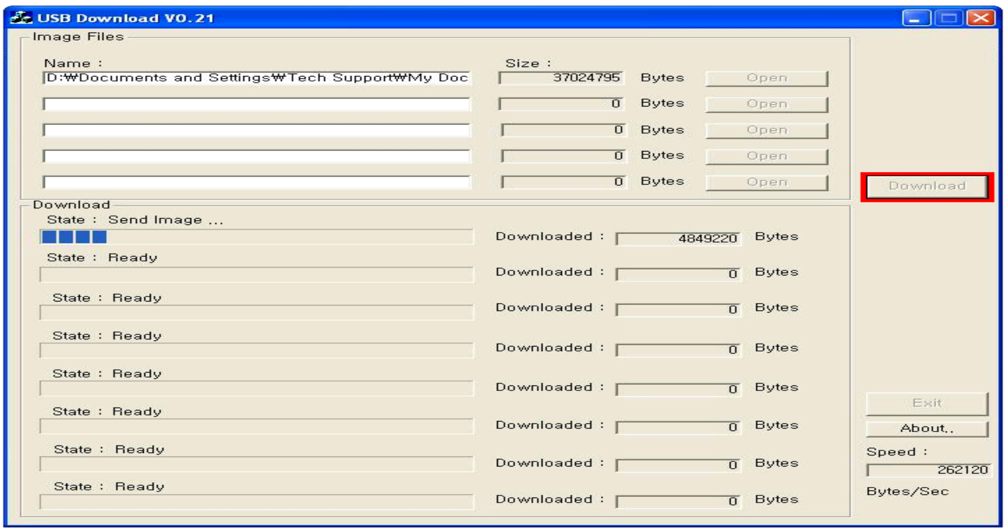
11. Run USBLoad_V0.22.exe then click 'Open'.



Change 'File of type' to (*.bin) then open NK.bin file.



12. Click 'Download' to start updating OS. Below image indicates OS update is in progress. 'Downloading***' message will appear on the LCD when the OS is being updated.



13. When OS update is completed, 'Reset' message will appear on the LCD. Then reset the device by briefly pressing the reset button on the device.

OS update will remove the previous Flash Disk files. To copy the flash disk files back to the PDA, you can either use SD card or ActiveSync (via USB).

M3 ORANGE

OS Update via MicroSD Card

CAUTION
Use fully charged battery or AC power while OS update process.

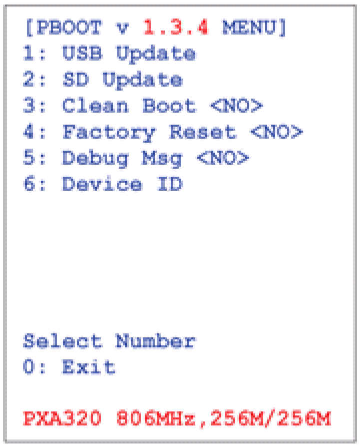
I. Installation

1. 1. When unzip the download OS file, there are two files which are **EBOOT.nb0**, bootloader file, and **FLASH.bin**, OS image file. Check the boot and OS version and copy file which needs to be updated between them or both to **root folder** of microSD card. Then insert the SD card to the device.

Caution: When SD card is used for OS update, SDHC is not supported and the capacity should be less than 2G.

2. Turn off the device by pressing the power button for approximately 10 seconds.
Then, while pressing the right arrow button, press power button to enter the boot menu.





<PBOOT Menu Example>

3. Select SD update to update OS. When OS update is complete, reset the device.

OS Update via USB Downloader

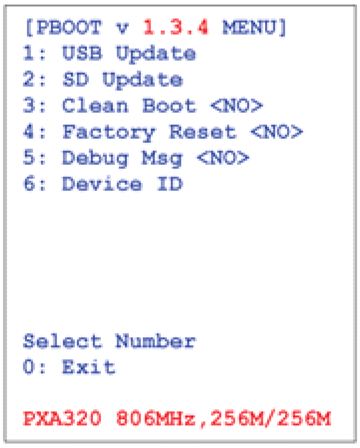
CAUTION
OS update via USB Downloader is NOT supported in Vista or Windows7.
Driver installation only needs to be done for the first time.

I. Installation

1. Download the USB_Downloader and OS update files to your PC.
   It can be downloaded from the support webpage.

2. Turn off the device by pressing the power button for approximately 10 seconds.
   Then, while pressing the right arrow button, press power button to enter boot menu.





<PBOOT Menu Example>

3. From the boot menu, press ‘1’ to select USB Update. Connect USB Cable... message will display on the screen.



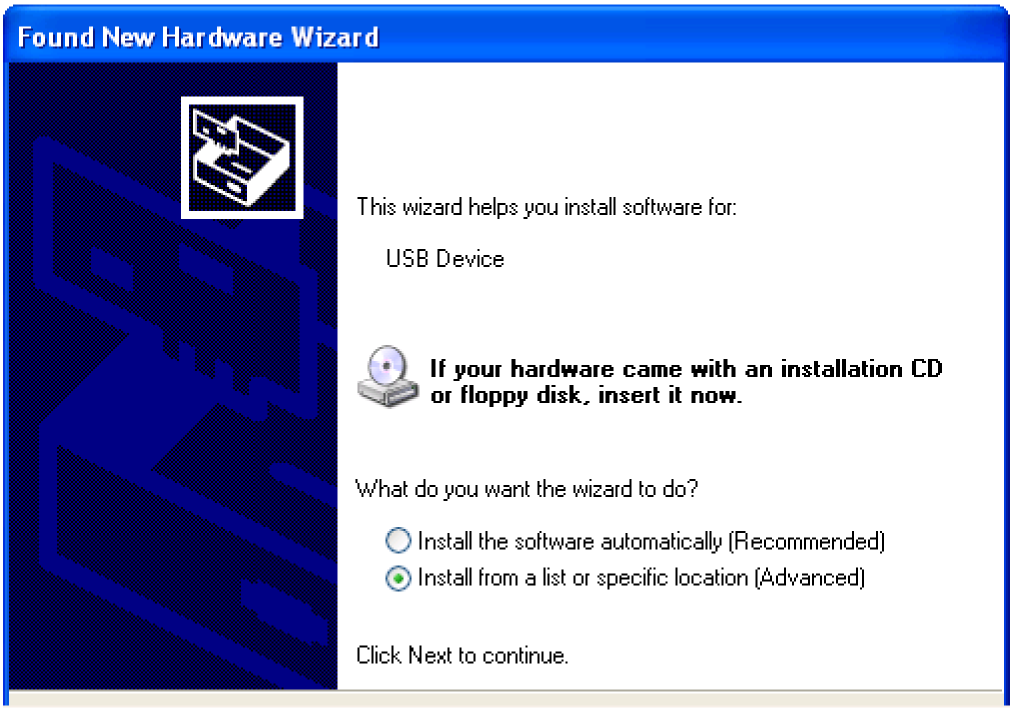
4. Place M3 ORANGE on the cradle and connect to a PC via USB cable. ‘Found New Hardware’ message will be displayed on your PC.



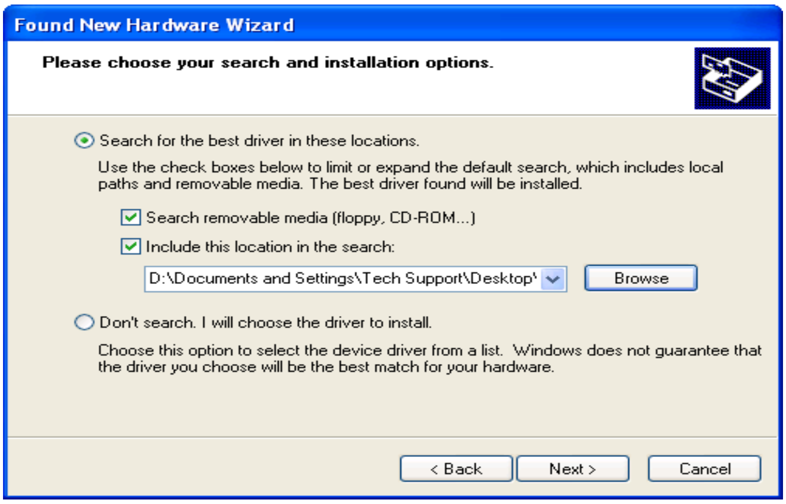
5. If the device is connected to the PC for the first time, Microsoft windows will start New Hardware Wizard automatically. From the options, choose “No, not this time”, then click “Next>” to proceed.



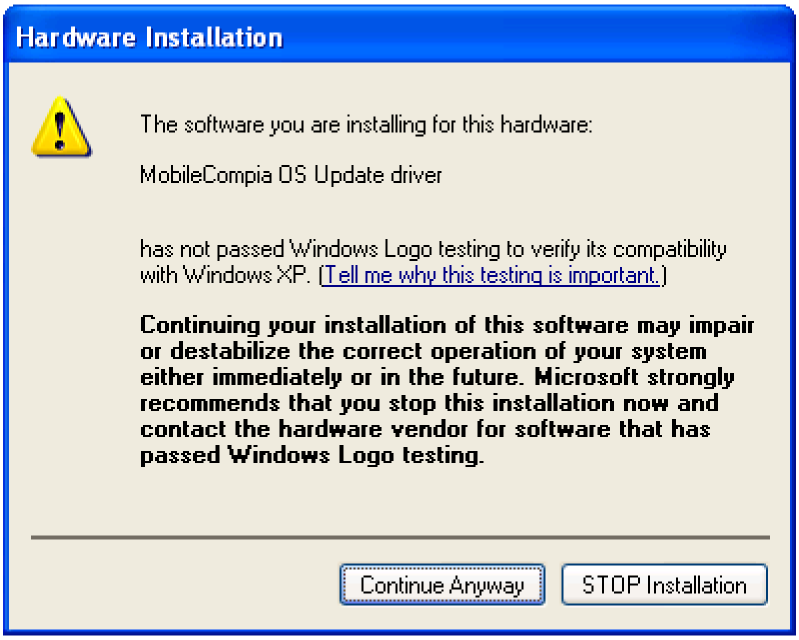
6. Choose “Install from a list or specific location (Advanced)” option then proceed.



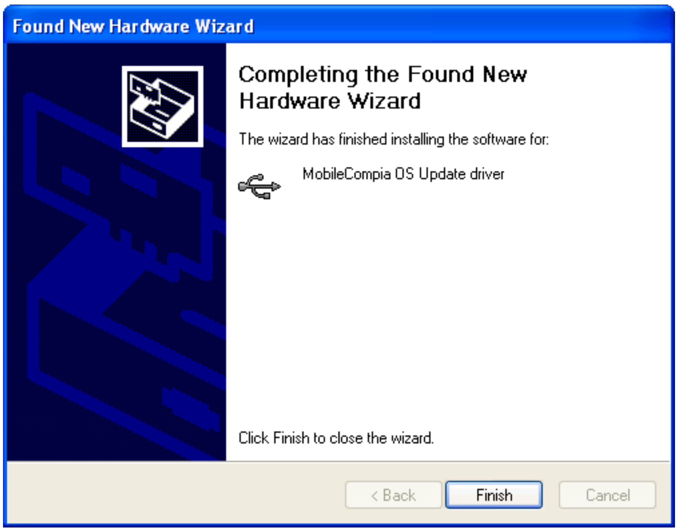
7. Check “Include this location in the search:” option then, specify the location of the folder which contains the driver files: M3BlackUSB.sys, M3Black.inf.



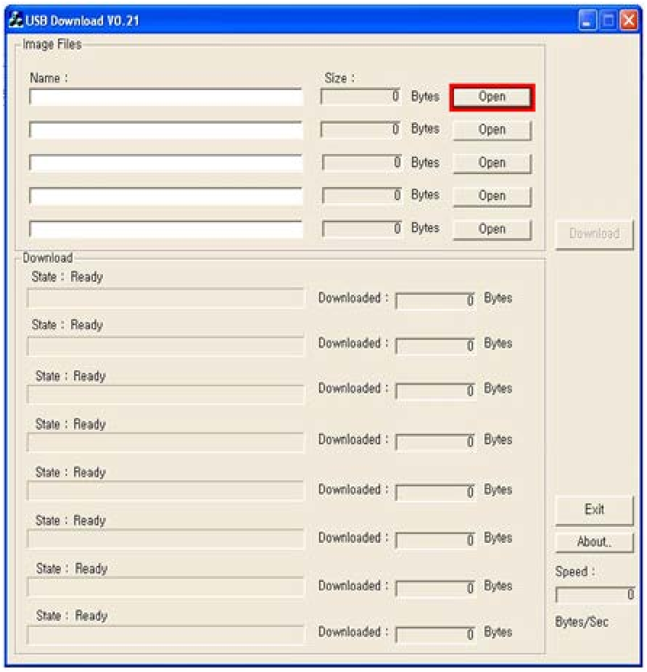
8. When the warning window appears, click “Continue Anyway”.



9. Then, click 'Finish' to complete driver installation.



10. When it is ready, run USBLoad.exe. Click on Open button as indicated on the image to load necessary files.



Please load files in the following order:
a. EBOOT.nb0 b. FLASH.bin

11. When all files are loaded, click Download to start OS update.

12. Reset the device when OS update is complete.

M3 SMART WM

OS Update via MicroSD card

NOTE

1. When MicroSD card is used for OS update.
2. This manual assumes updating both BOOT and OS using IMAGES.BIN.
3. Please make sure your device type whether 2G or 3G type.

- Ex) OS ver. : C3ST**H**6150EN('H' means HSPA, 3G type)

  Product No. : UA10**H**GDNKLxxxxx

- Ex) OS ver. : C3ST**G**6147EN('G' means GSM, 2G type)

  Product No. : UA10**G**PDNLG41897

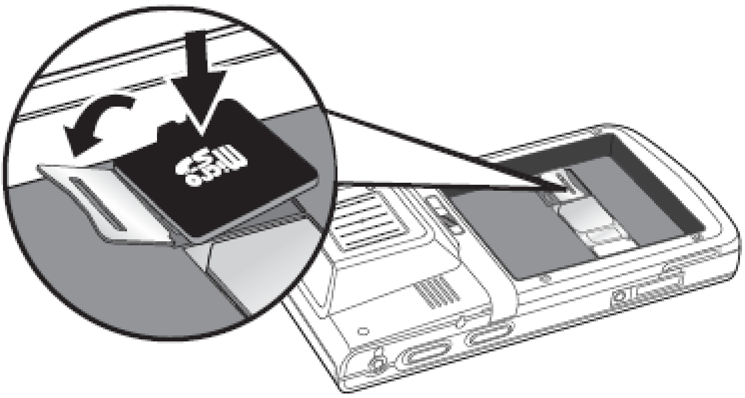
CAUTION

Use fully charged battery or AC power while OS update process.

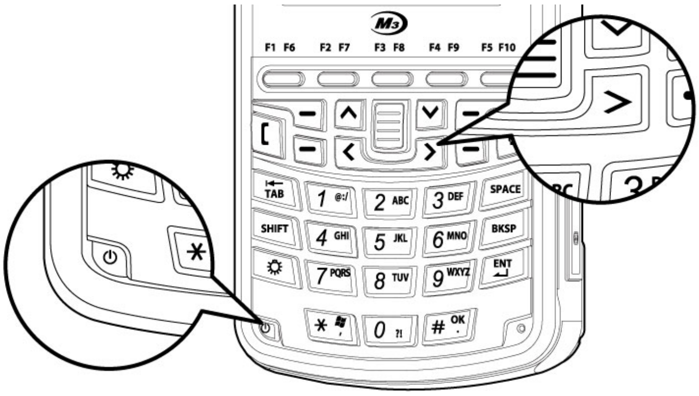
1. To update the OS, user can choose update files to suit their requirements.

BOOT.BIN	- used to update BOOT only
FLASH.BIN	- used to update FLASH (OS) only
IMAGES.BIN	**- used to update BOOT and OS (Recommended)**
IPL.BIN	- used to update boot image (splash image)

Copy IMAGES.BIN to **root folder** of MicroSD then, insert the micro SD card to the device.



2. Turn off the device by pressing the power button for approximately 10 seconds.
   Then, while pressing the right arrow button, press power button to enter the boot menu.



[BOOT MENU 1.0.2]
1) SD Download
2) USB Download
3) Clean Boot
4) Factory Reset
5) Device ID(UUID)
6) Debug Serial:[NO]
7) ALL Format

Select Number

0) Exit:Launch OS image

SAMSUNG-S5PC100 833MHz
RAM 256MB / ROM 1GB

3. From the boot menu, press ‘1’ to enter SD Update Mode. Then, press ‘3’ to start update.

4. When OS update is completed, reset the device.

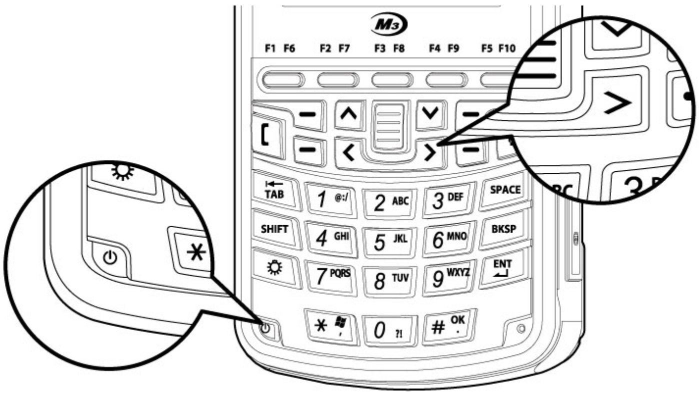
OS Update via USB Downloader

NOTE
Driver installation only needs to be done for the first time.

I. Driver Installation

1. Download all necessary files to your PC.
   ① OS file.
   ② USB Update tool: M3SMART_USBDown.zip
   ③ USB Driver if necessary: M3SMART_Driver.zip

2. Turn off the device by pressing the power button for approximately 10 seconds.
   Then, while pressing the right arrow button, press power button to enter boot menu.



[BOOT MENU 1.0.2]
1) SD Download
2) USB Download
3) Clean Boot
4) Factory Reset
5) Device ID(UUID)
6) Debug Serial:[NO]
7) ALL Format

Select Number

0) Exit:Launch OS image

SAMSUNG-S5PC100 833MHz
RAM 256MB / ROM 1GB

3. From the boot menu, press ‘2’ to enter USB Download Mode. Then, press ‘1’ to prepare the PDA for USB OS update.

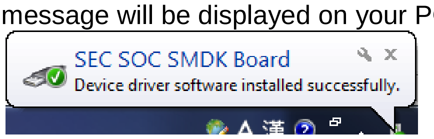
[USB Download Mode]

USB Download Ready..
Please Send Image File

0) Power Off

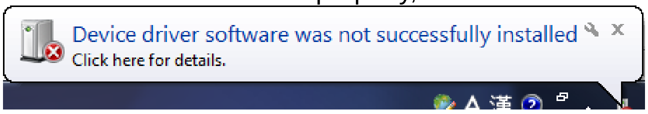
When it displays USB Download Ready, connect the PDA to the PC.

4. Place M3 SMART on the cradle and connect to a PC via USB cable. ‘Found New Hardware’ message will be displayed on your PC and will automatically install required driver.

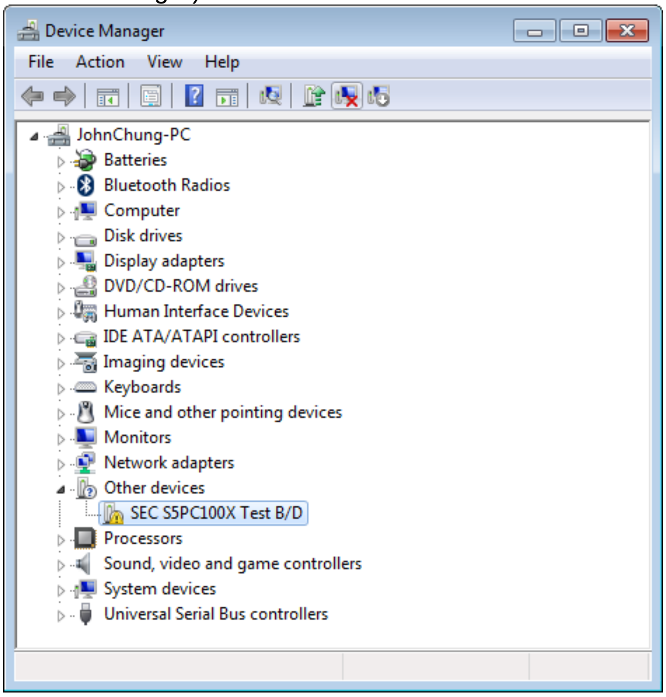


If the driver is installed properly, please go to step 11, otherwise proceed to step 5.

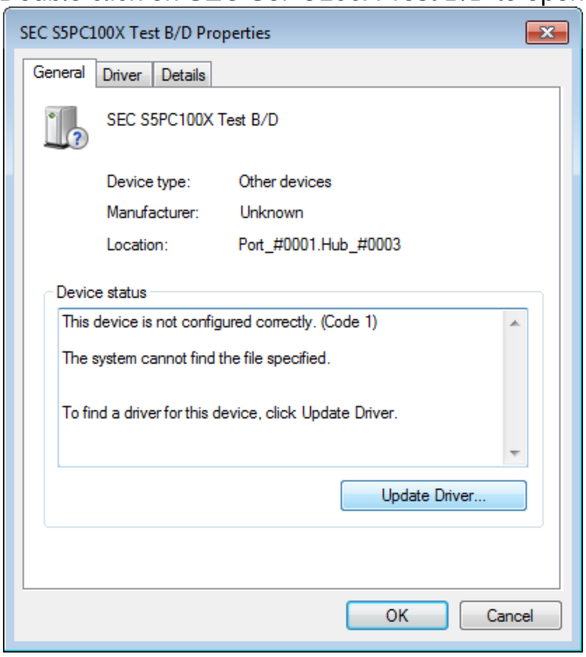
5. If the driver is not installed properly, the driver must be installed manually.



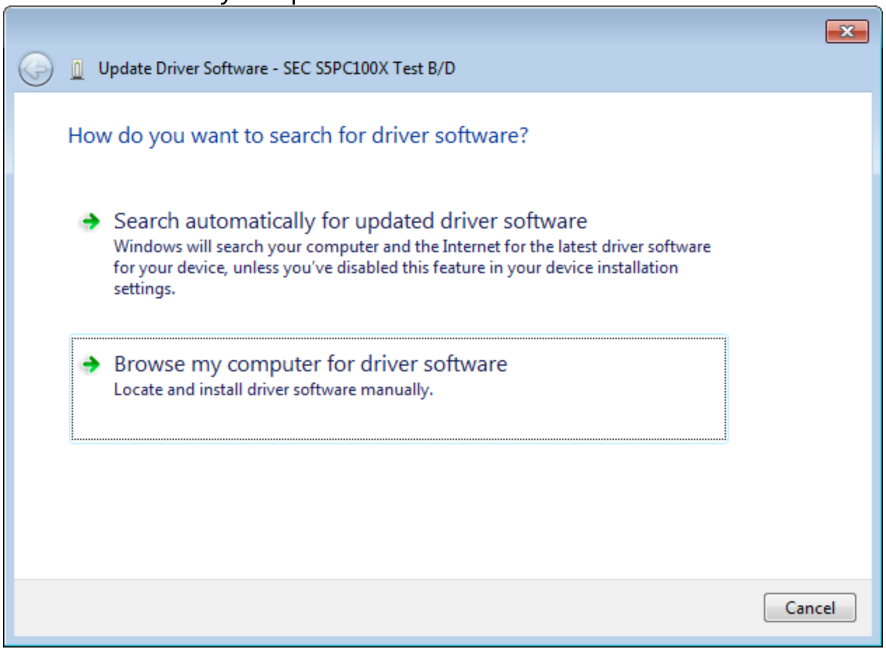
Please open Device Manager. (Control Panel > Hardware and Sound > Devices and Printers > Device Manager).



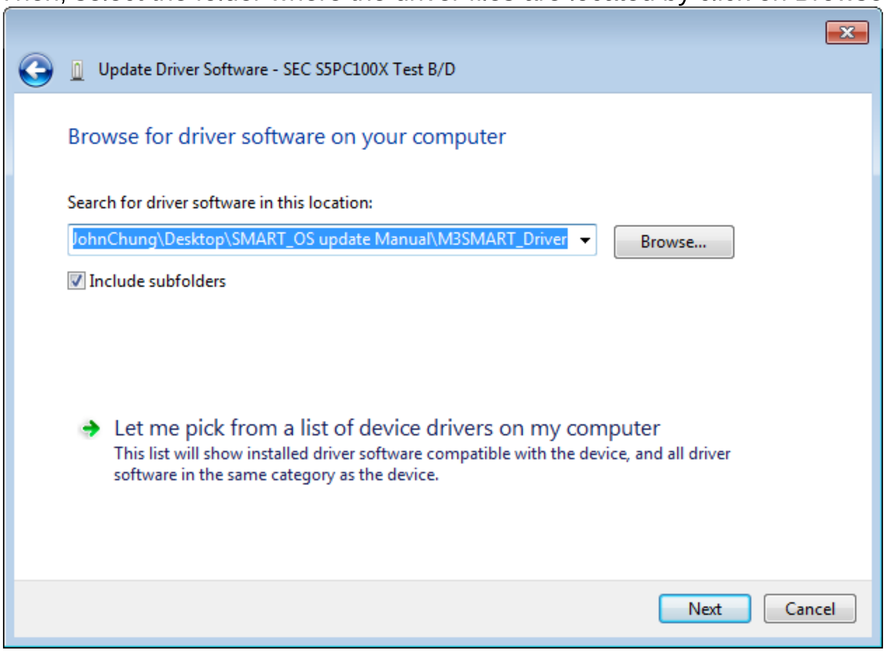
6. Double click on SEC S5PC100X Test B/D to open the properties and click on Update Driver…



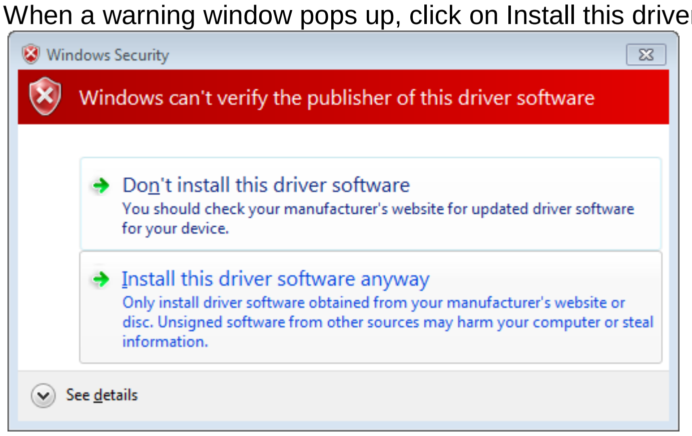
7. Click on Browse my computer for driver software



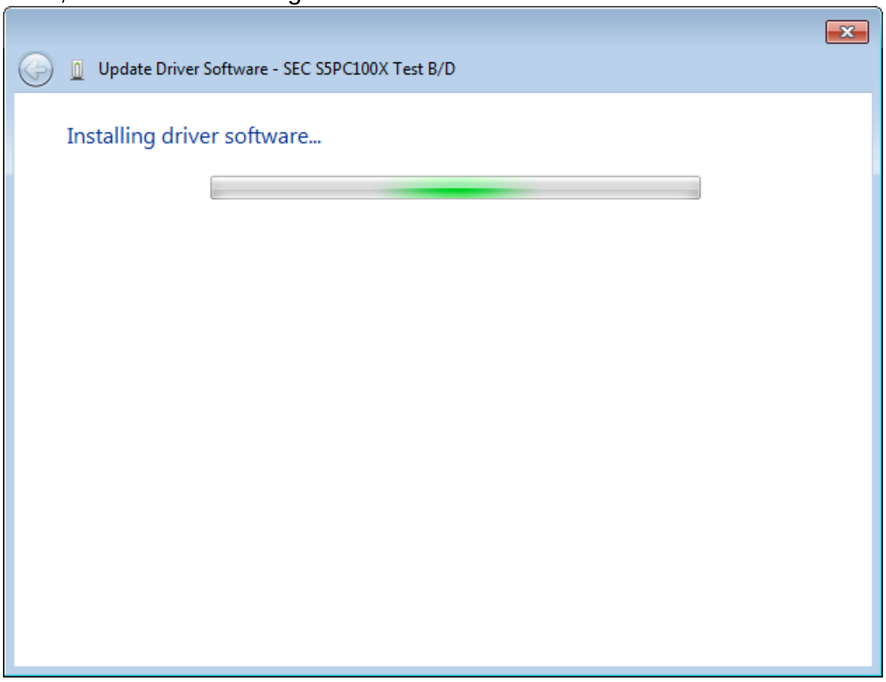
8. Then, select the folder where the driver files are located by click on Browse…



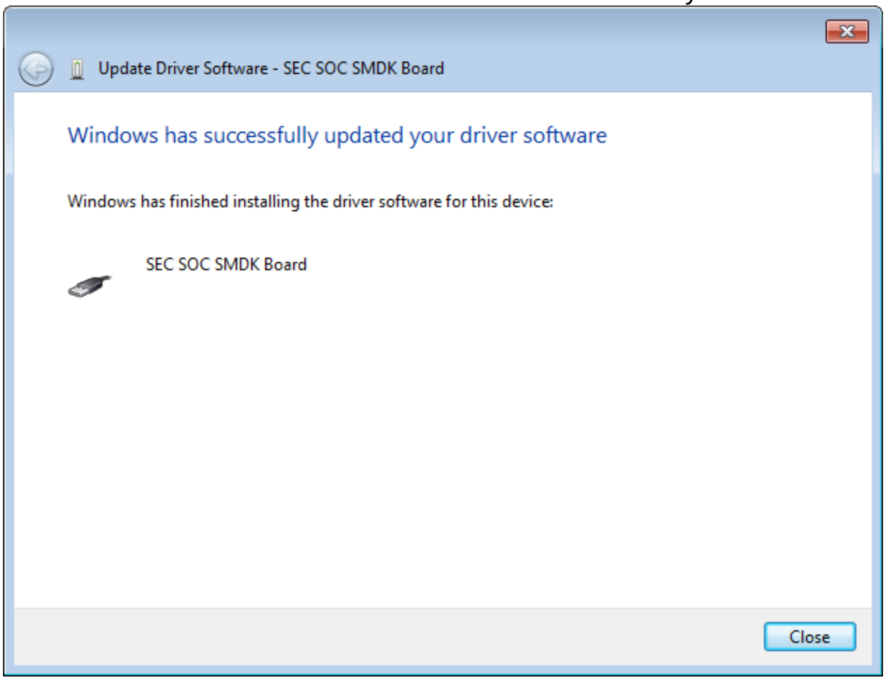
9. When a warning window pops up, click on Install this driver software anyway.



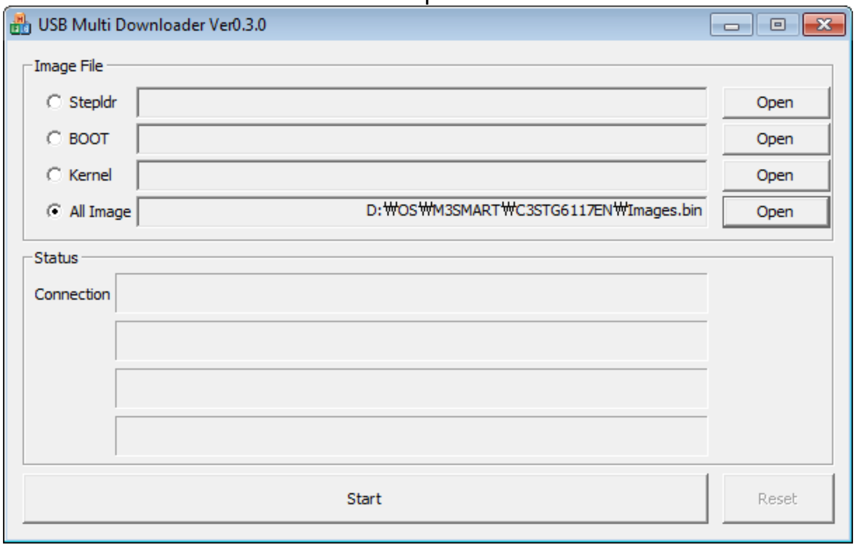
Then, it will start installing driver software.



10. Close the window after the driver installation is successfully done.

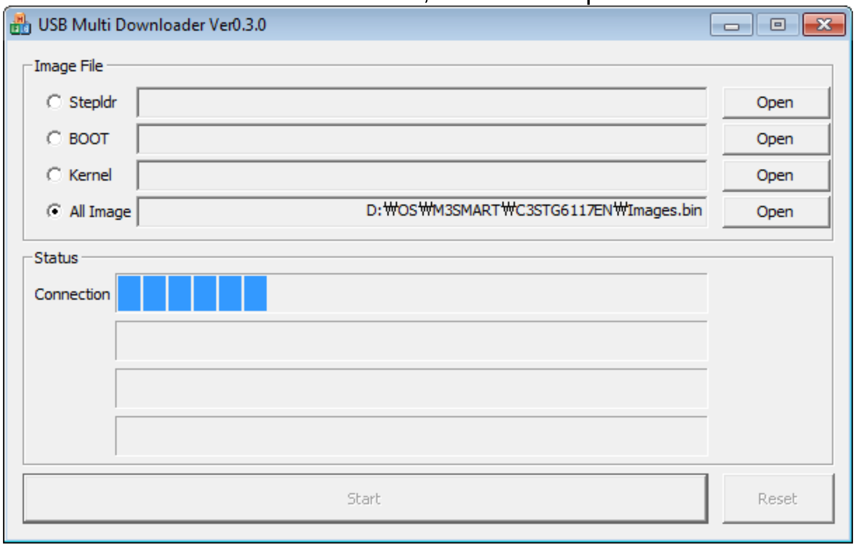


11. Launch USBDown.exe to start OS update.



12. Select 'All Image' and click on Open to select Images.bin, OS file.

13. When the correct OS file is selected, click start to proceed.



14. When OS update is complete, PDA will display complete message on the screen. Then press '0' to launch OS image.

9. RFID

Common

RFID Frequencies

RFID is divided into three categories depending on the frequency used.

RFID Type	Frequency Band
LFID (Low Frequency Identification)	120~140 kHz
HFID (High Frequency Identification)	13.56 MHz
UHFID (Ultra High Frequency Identification)	868 ~ 956 MHz

Supported Tags

There are 3 types of RFID that M3 device supports: Ultra High frequency, High frequency and Low frequency.

1. **High frequency supported Tag**

Tag	Manufacturer	Serial Number	Read/Write operation	Transfer command	Comments
ISO 14443 A					
MIFARE® Standard	NXP	✓	✓	✓	
MIFARE® 4k	NXP	✓	✓	✓	
MIFARE® Ultralight	NXP	✓	✓	✓	
MIFARE® ProX	NXP	✓	✓	✓	
MIFARE® DESFire	NXP	✓	-	✓	
MIFARE® Mini	NXP	✓	✓	✓	
SLE66CLX320P	Infineon	✓	-	✓	Encryption not included
SLE 55R04 / 08	Infineon	✓	-	✓	Encryption included
Smart MX	NXP	✓	-	✓	
Jewel	Innovision	✓	✓	✓	
Topaz	Innovision	✓	✓	✓	
ISO 14443 B					
SLE6666CL 160S	Infineon	✓	-	✓	
SR176	STM	✓	✓	✓	
SLIX 4K	STM	✓	✓	✓	
ASK GTML2 ISO	ASK	✓	-	✓	
ASK GTML	ASK	✓	-	✓	Extended setup needed
Sharp B	Sharp	✓	-	✓	
TOSMART P0032/64	Toshiba	✓	-	✓	

Dual Interface					
ISO 14443 A compliant	Various	✓	-	✓	
ISO 14443 B compliant	Various	✓	-	✓	
ISO 15693					
EM 4135	EM	✓	✓	✓	
ICode® SLI	NXP	✓	✓	✓	
LRI12	STM	✓	✓	✓	
LRI64	STM	✓	✓	✓	With 10% modulation index
LRI128	STM	✓	✓	✓	
LRI2k	STM	✓	✓	✓	Better performance with 10% modulation index
SRF55VxxP	Infineon	✓	✓	✓	
SRF55VxxS	Infineon	✓	✓	✓	Encryption included
Tag-it™ HF-I Std	TI	✓	✓	✓	
Tag-it™ HF-I Pro	TI	-	-	✓	Only in addressed mode
TempSense	KSW	✓	-	✓	Temperature logging
ICode					
ICode®	NXP	✓	✓	✓	
ICode® EPC	NXP	✓	✓	✓	
ICode® UID	NXP	✓	✓	✓	

2. Low frequency supported tag.

Tag	Serial Number	Read block	Write block	Properties
EM4x02	✓	-	-	5 bytes R/O
EM4x50	✓	✓	✓	32 x 4 bytes R/W, password
HITAG1	✓	✓	✓	64 x 4 bytes R/W
HITAG S	✓	✓	✓	1, 8 or 64 x 4 bytes R/W
HITAG2	✓	✓	✓	7 x 4 bytes R/W, password
EM4x05 (ISO-FDXB)	✓	-	-	8 bytes R/O
Q5	✓	✓	✓	8 x 4 R/W, password
TI-RFID SYSTEMS 64 Bit R/O	✓	-	-	8 bytes R/O
TI-RFID SYSTEMS 64 Bit R/W	✓	✓	✓	8 bytes R/W
TI-RFID SYSTEMS 1088 Bit Multipage	✓	✓	✓	17 x 8 bytes R/W

3. **Ultra High Frequency supported compliant.**

TAG Type – Tag Antenna Width	
UHF C1G2 EPC - 2 Cm	860-960MHz
UHF C1G2 EPC - 3 Cm	860-960MHz
UHF C1G2 EPC - 8.5 Cm	860-960MHz
UHF C1G2 EPC - 9 Cm	860-960MHz
UHF C1G2 EPC - Card Type TAG	860-960MHz

*Reading distance may vary depends on UHF type (FCC&ETSI).

RFID Frequency of Country	
Band	Frequency
FCC	902 ~ 928MHz
CE	865 ~ 868MHz
Japan	952 ~ 955MHz (910~920MHz)
China	920 ~ 925MHz / 840 ~ 845MHz
KCC	917 ~ 923MHz

10. SERIAL COMMUNICATION

Common

COM port description

What are the Com Ports that are used on the M3 series?

Each COM port is differently used depending on devices. Please refer to below table for the COM Port description.

COM	M3 RED	M3 GREEN	M3 T	M3 POS
0	-	Vehicle Cradle Serial	-	-
1	Internet	Internet	-	-
2	-	-	USB	Serial1
3	-	-	GPS	RFID
4	Bluetooth	Bluetooth	-	ICCard
5	Phone	Phone	Serial	Bluetooth
6	Scan / Serial	Scanner	Scanner	Scanner
7	BT / IrDA (Shared)	Bluetooth	Serial2	Printer
8	-	IrDA / Serial (Shared)	Serial3	Phone
9	-	Bluetooth	BT (SS1)	Serial w/ PW
MOC1	-	-	-	-

COM	M3 SKY, MM3	M3 ORANGE	M3 SMART CE	M3 SMART WM
0	Vehicle Cradle Serial	Vehicle Cradle Serial	-	-
1	Phone	-	Phone	Phone
2	GPS	GPS		GPS / DEBUG / Serial
3	-	-	GPS/DEBUG	-
4	IrDA	-	Scanner	–
5	-	-	-	-
6	Scanner	Scanner	Bluetooth	Scanner
7	BT (MS)	USB	-	USB
8	Serial	Serial	Bluetooth	-
9	BT (SS1)	BT (MS, SS1)	-	BT (MS, SS1)
MOC1	RFID	RFID	-	-

Supported Baud Rates

Below table summarizes the supported baud rate range and test method for each PDA models.

Model	OS	Method	COM Port	Min (Bd)	Max (Bd)
M3 RED	CE 4.2	Snap-on	COM 6	1200	115200
M3 GREEN	CE 5.0	Snap-on	COM 8	300	115200
M3 SKY	WM 6.1	Snap-on	COM 8	300	115200
M3 ORANGE	WM 6.5	Serial Cradle	COM 8	1200	115200
M3 T	CE5.0	Serial Cradle	COM 8	1200	115200
MM3	WM 6.1	Serial Cradle	COM 8	300	115200
M3 SMART CE	CE 6.0	Not Supported	-	-	-
M3 SMART WM	WM 6.5	Serial Cradle	COM 2	300	115200
M3 POS	CE 5.0	Cradle	COM 2	300	115200

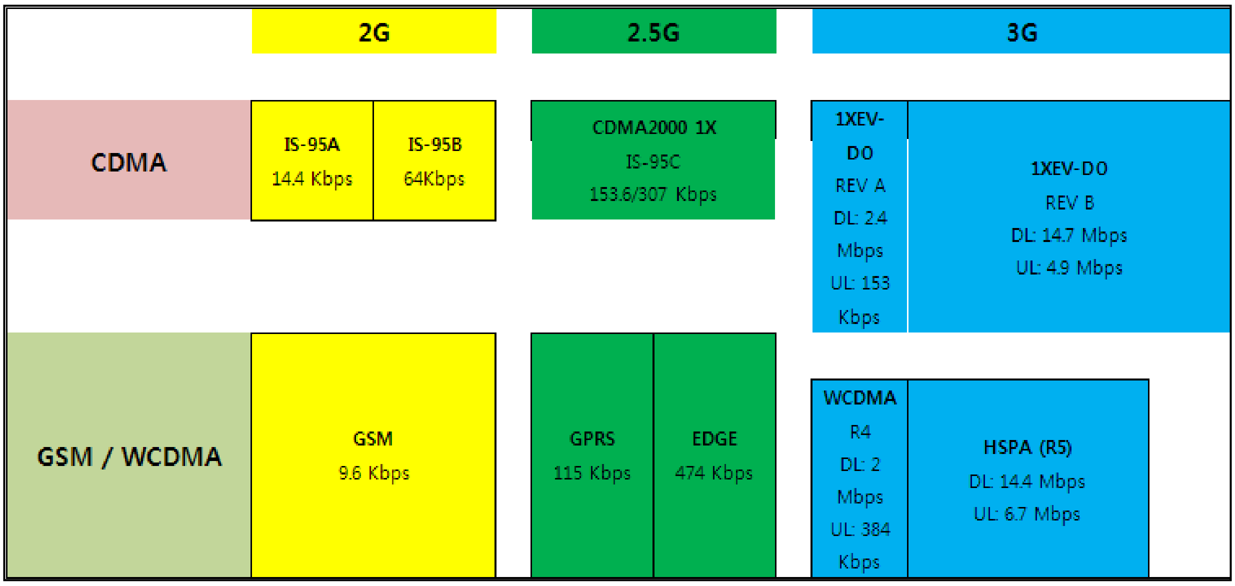
Note that this result is to provide a brief idea of the supported baud rate range. Also, it has been tested from 300 baud to 115200 baud only. Therefore, the minimum and the maximum value may differ to above results.

11. PHONE (GPRS)

Common

Difference between EDGE and 3G

Difference between EDGE (Enhanced Data rates for GSM Evolution) and 3G (3rd Generation) is summarized in below table.



Please note that speed figures shown above is maximum speed you can get, not definite speed that you can get from M3 products.

Refer to below table for Up/Download rate of EDGE and HSDPA.

Technology	Download Rate (bit/s)	Upload Rate (bit/s)
EDGE	236.8 kbit/s	236.8 kbit/s
HSDPA	13.98 Mbit/s	5.760 Mbit/s

Note: Please note that above figures are standard only, not actual rate of M3 products.

For more information, please refer to the linked explanation.
http://www.differencebetween.net/technology/difference-between-edge-and-3g/

M3 GREEN

Dialing Window

How can I disable the Dialing window?

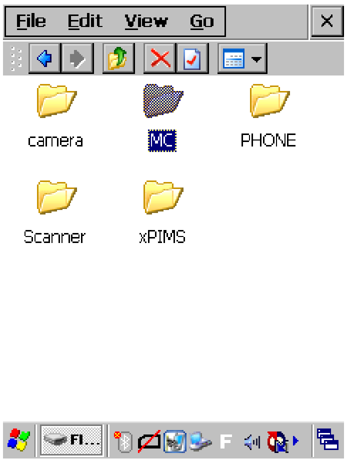
When the WLAN is re-connected while using the phone and the WLAN at the same time, you can show the dialing window as below picture.

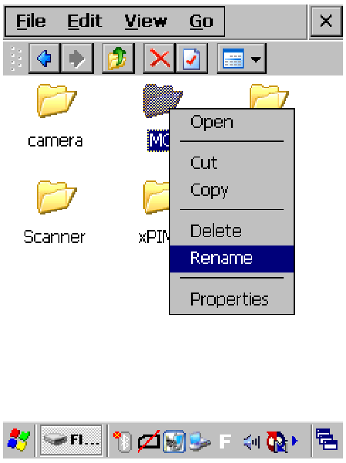


There are two methods to disable the dialing window.

1. Delete the MC folder or change the name of it in Flash Disk

Enter [My Device]->[Flash Disk].



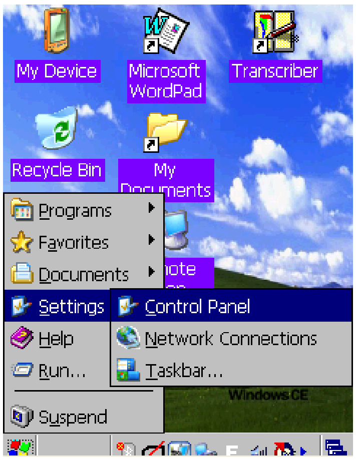


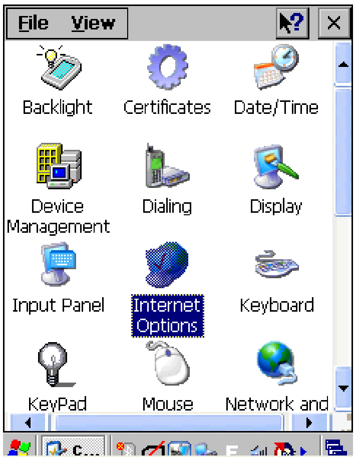
Rename or delete the MC folder.

2. Enable "Use LAN"

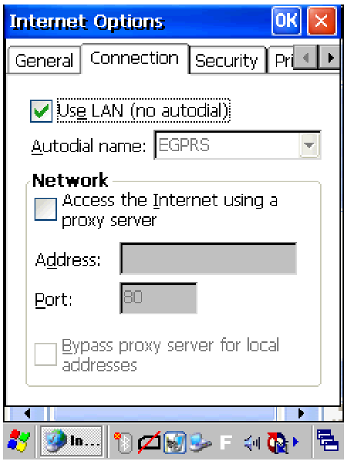
Another method to disable the dialing window is as below;

Follow these steps : [Start]->[Settings]->[ControlPanel]->[Internet Options]





Check the Use LAN(no autodial).



Windows Mobile (M3 SKY, MM3, M3 ORANGE, M3 SMART WM)

RIL Log

How to obtain a RIL Log

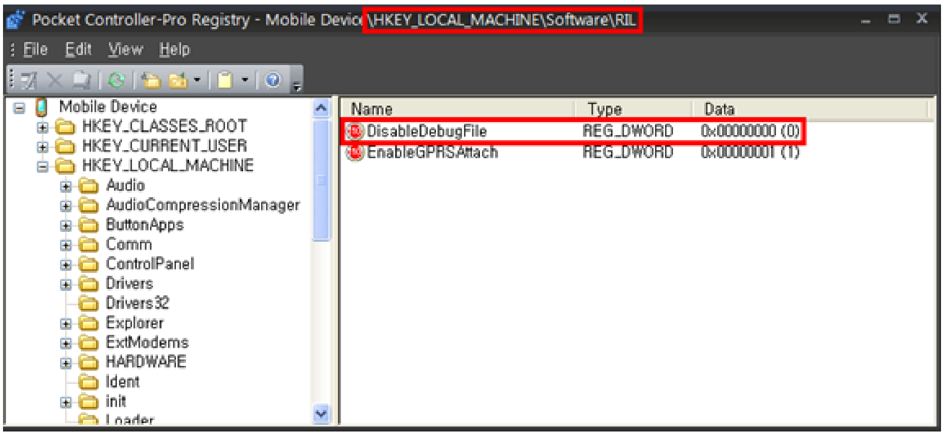
This document guides the user to obtain a RIL log for WWAN (GSM, HSDPA) modules. There are two ways in obtaining a RIL log file.

- Changing a registry value for 3G HSDPA only
- Using rilgsm.dll for 2G GSM Only

1. Changing Registry Value (For 3G HSDPA Only)

If your device does not have the registry key, DisableDebugFile, use the second method to obtain the RIL log.

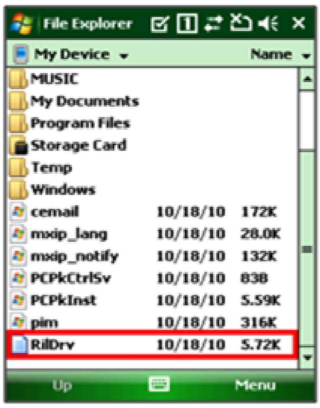
i. **Change the following registry value to '0'**
[HKEY_LOCAL_MACHINE\Software\RIL] DisableDebugFile: 0
User can either use a registry editor or StartUp.inf to edit the value of registry.
For using StartUp.inf to modify the registry value, please refer to M3 FAQ.

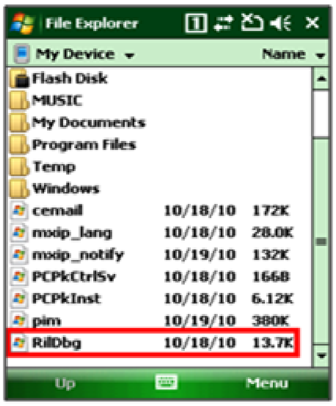


An example of a registry editor is shown above.

ii. **After changing the registry value, soft reset the device.**

iii. **When PDA boots up, RilDrv.txt file will appear in root directory.**
When M3 ask for RIL log, please turn on the PDA and reproduce the issue.
Then, send the copy of RilDrv.txt or RilDbg.log to M3 Mobile Technical Support.





Left: RilDrv.txt file is created in the root directory when registry changing method is used.

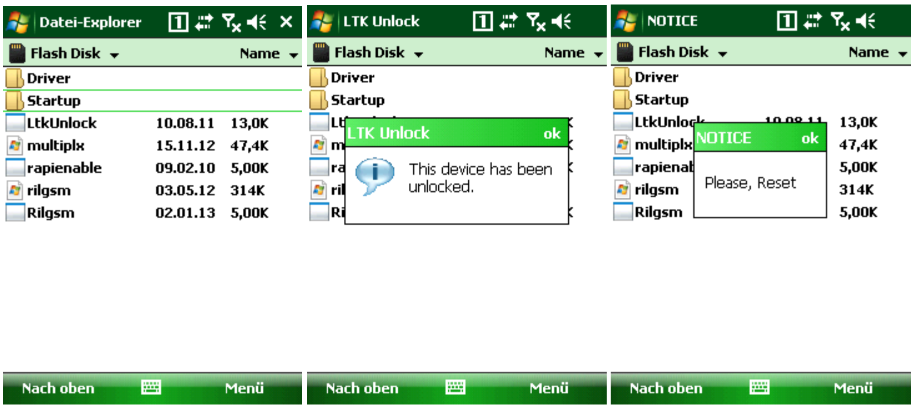
Right: RilDbg.log file is created in the root directory when rilgsm.dll is used.

2. Using RILGSM.DLL to Obtain RIL Log File (For 2G GSM Only.)

This method requires copying rilgsm.dll to Windows folder. To copy the dll file to Windows folder, the operating system must be unlocked. Follow below steps.

i. **Copy m3sky7500summmit_rilgsm_debugfile.zip to Flash Disk folder**

Download m3sky7500summmit_rilgsm_debugfile.zip file and unzip then copy 5 files(LtkUnlock.exe, rapienable.exe, multiplx.dll, rilgsm.dll and Rilgsm.exe) to \My Device\Flash Disk.



Run 'Rilgsm.exe' then below messages show up.

Please, make a soft-reset.

ii. When PDA boots up, RilDbg.log file will appear in root directory.

GPRS Settings

To use GPRS, must enter required information such as APN (Access point name), username and password information which is provided by the operator.

There are 4 ways of configuring GPRS connection:

1. Using WM Connections setting wizard (manual configuration)
2. Using WWAN Manager (semi-auto configuration)
3. Using StartUp.inf included in StartUp folder of M3 flash disk files and operator's .ini file (auto configuration)
4. Using XML (auto configuration)

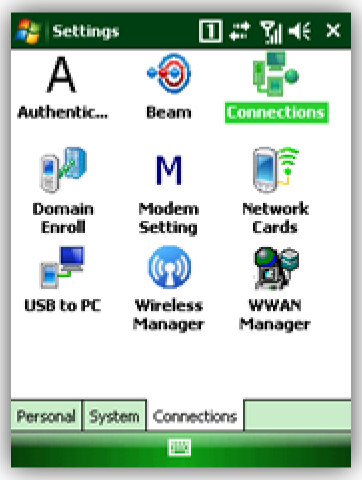
1. GPRS Configuration using WM Wizard

To configure GPRS connection, follow the steps described below.

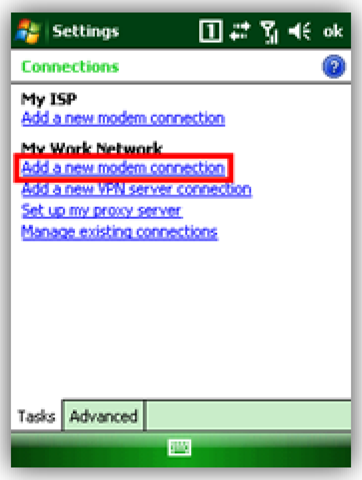
1. Click [Start]→[Settings]



2. Click [Connections]



3. Click 'Add a new modem connection' either in 'My ISP' or 'My Work Network'.



4. Assign a unique name for the connection and select 'Cellular Line (GPRS)' from the drop down menu. Then, click 'Next'



5. Enter 'Access point name' that is provided by the operator. Then, click 'Next'.

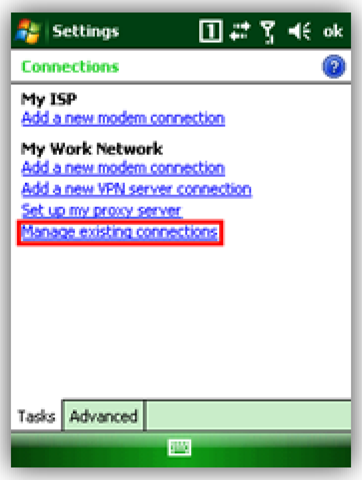
6. Enter Username and password that are also provided by the operator. Then, click 'Finish'.

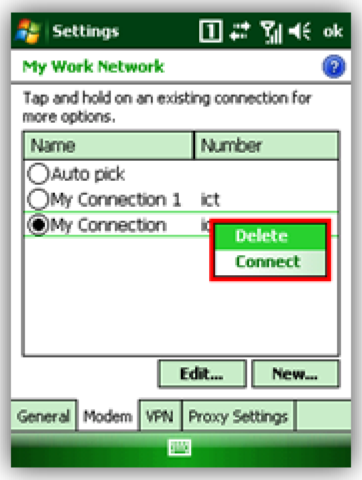




7. After the GPRS profile is created, you can connect to the profile in 'Manage existing connections' from (iii).

8. Select one profile. Then, press and hold the stylus pen on the profile. From the pop-up menu, click 'connect' to connect to GPRS.





2. WWAN Manager

To use WWAN Manager, WWAN_Manager.CAB must be installed. There are two ways of installing WWAN Manager:

1. Click WWAN_Manager.CAB in \Flash Disk \Driver or

```
[GPRS_INSTALL]
Install=1
InstalFile=\Flash Disk\Driver\WWAN_Manager.CAB
```

2. Set Install value of [GPRS_INSTALL] to 1 in M3.ini

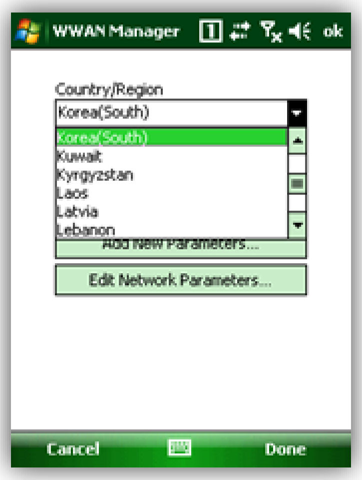
1. Click [Start] → [Settings].



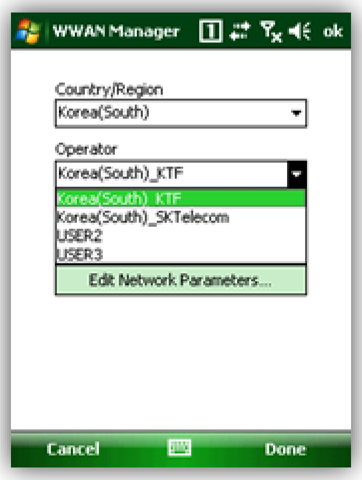
2. Click [WWAN Manager] icon from [Connections] window.



3. Select Country / Region.



4. Select Operator (Service Provider).



5. Click 'Done' when finished.



If the operator you wish to connect does not appear in operator drop down menu, you can add new operator through ‘Add New Parameters...’ or if the operator’s details are wrong, you can edit it through ‘Edit Network Parameters...’

3. GPRS Configuration using StartUp.inf and .ini file provided by the Operator

To configure GPRS by this method, you need to have a copy of .ini file which contains the operator’s details something similar to:

```
[Country_Operator]
NUMBER=
IP_ADDRESS=
DNS_pRIMARY=
DNS_SECONDARY=
WINS_PRIMARY=
WINS_SECONDARY=
APN=
USERNAME=
PASSWORD=
CSD_PHONE_NUMBER=
CSD_USER_NAME=
```

```
CSD_USER_PW=
```

If you have the .ini file, copy the file to \Flash Disk \Driver. Then, add the following code in the **StartUp.inf** which is included in the StartUp folder of M3 flash disk files.

```
//GPRS Connection
CopyFile=/S "\Flash Disk\Driver\Country.ini" "\Windows\Provider\Country.ini"
sleep=500
RunExe= /S "\Windows\WWAN_Manager.exe" "Country,Country_Operator "
RegSetValue=/s dword
[HKEY_LOCAL_MACHINE\Software\Microsoft\RIL]SetGPRSAuthentication:2
RunExe =/s "\Windows\WWAN_Manager.exe" "1,Country,Country_Operator"
```

Note: In the code, Country.ini, Country_Operator and Country are arbitrary examples. You should change it appropriately. In the last line of code, '1' will create the connection profile in My Work Network and '0' will create the connection profile in My ISP.

For operators included in WWAN Manger, corresponding .ini file is already included in \Windows \Provider folder. Hence, CopyFile command is not required.

Here is an example code.

```
//GPRS Connection
CopyFile=/S "\Flash Disk\Driver\Korea(South).ini"
"\Windows\Provider\Korea(South).ini"
sleep=500
RunExe= /S "\Windows\WWAN_Manager.exe" "Korea,Korea(South)_KTF "
RegSetValue=/s dword
[HKEY_LOCAL_MACHINE\Software\Microsoft\RIL]SetGPRSAuthentication:2
RunExe =/s "\Windows\WWAN_Manager.exe" "0,Korea,Korea(South)_KTF"
```

Finally, open M3.ini file which is also included in StartUp folder of the flash disk files. Then, set install value of 1 of [GPRS_INSTALL].

```
[GPRS_INSTALL]
Install=1
InstallFile=\Flash Disk\Driver\WWAN_Manager.CAB
```

Save the changed in StartUp.inf and M3.ini file then copy back to the device followed by reset.

4. Using XML

To use auto configuration using xml, GPRS.xml file is required. Here is an example of GPRS.xml.

Note that you must set [SET_GPRS], [GPRS_INSTALL] should set to 1 in M3.ini

In the XML file, you can set Connection Name, UserName, Password, APN as below.

```
<wap-provisioningdoc>


<characteristic type="CM_GPRSEntries">
```

```
<!--Connection Name: Sample-->
<characteristic type="Sample">

<parm name="DestId" value="{436EF144-B4FB-4863-A041-8F905A62C572}"/>
<!--UserName: -->
<parm name="UserName" value="" />
<!--Password: -->
<parm name="Password" value="" />
<!--Domain: -->
<parm name="Domain" value="" />
<characteristic type="DevSpecificCellular">

<parm name="BearerInfoValid" value="1"/>
<parm name="GPRSInfoValid" value="1"/>
<parm name="GPRSInfoProtocolType" value="2"/>
<parm name="GPRSInfoL2ProtocolType" value="ppp"/>
<!--APN: rsit.comcel.com.co -->
<parm name="GPRSInfoAccessPointName" value="rsit.comcel.com.co"/>
<parm name="GPRSInfoAddress" value=""/>
<parm name="GPRSInfoDataCompression" value="1"/>
<parm name="GPRSInfoParameters" value=" "/>

</characteristic>

</characteristic>

</characteristic>

</wap-provisioningdoc>
```

Copy GPRS.xml file into \Flash Disk\StarUp folder. And set install values of [SET_GPRS] and [GPRS_INSTALL] to 1 in M3.ini.

```
[SET_GPRS]
Install= 1

[GPRS_INSTALL]
Install=1
InstallFile=\Flash Disk\Driver\WWAN_Manager.CAB
```

Save the changes in M3.ini then copy back to the device followed by reset.

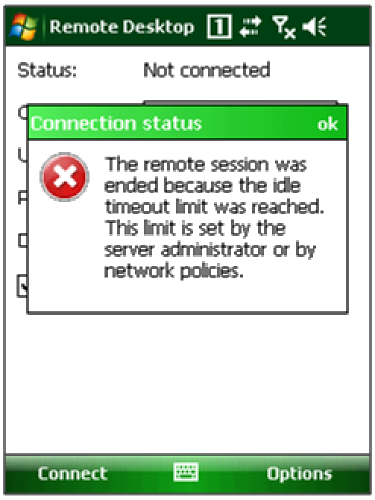
12. SCANNER

Common

Remote Desktop Connection

Automatic Disconnection of Remote Desktop Connection

If you are using the RDC (Remote Desktop Connection) on your PDA, you may experience automatic disconnection of the RDC with the following error message on the screen.



This error message appears because the terminal has been in the idle state for longer than the time limit set by the server administrator or by network policies as indicated in the message. The time limit is usually set to 10 minutes.

Since the time limit is set by the network system, it will not be solved by any configuration on the PDA. To prevent this automatic disconnection,

1. You will need to set the time limit longer than 10 minutes on the network system (consult your network administrator) or
2. Periodically send a packet to the server on your application to avoid going in to the idle state for longer than 10 minutes. The packet sending period should be less than 10 minutes obviously.

Please alter either the

1) Network system time limit or

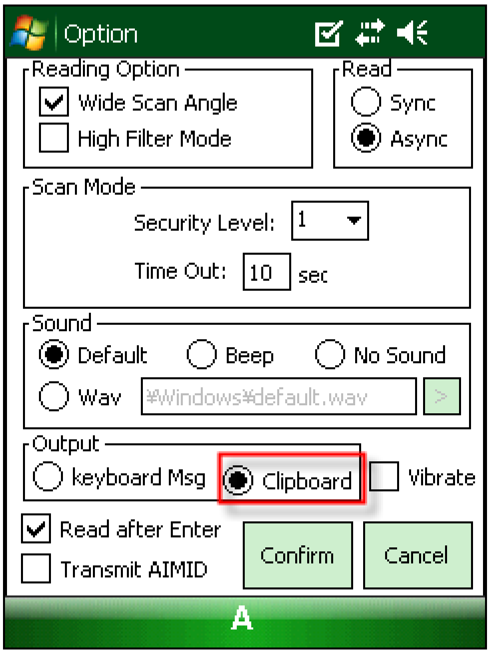
2) Your application on your preference.

Switching Case of Decoded Character

Scan output type can be configured from ScanEmul option.

Keyboard Msg output is affected by virtual keypad settings. For instance, if the CAP button is pressed in SIP, the result will be in capital letter.

Clipboard output is not affected by virtual keypad settings.



Note: Default type is keyboard Msg.

Keyboard Msg: Outputs the barcode results one by one (Slower than clipboard type).
Clipboard: Outputs the whole result at once as in 'copy and paste' (faster than the keyboard Msg type).

Windows CE (M3 GREEN, M3 T, M3 POS)

Remote Desktop

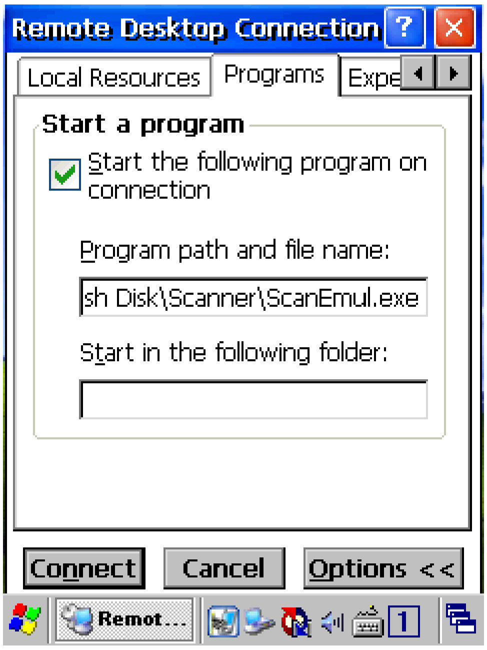
Scan button doesn't work in Remote Desktop.

If scan button is not working in ScanEmul when using Remote Desktop, check the following lists.
Checking procedure:

1. WLAN must be connected to an AP properly.

2. Check if you can browse a website (Eg: www.google.com).

3. Launch Remote Desktop and configure as below. \Flash Disk\Scanner\ScanEmul.exe



4. Close the option window and enter IP address that you wish to access.

5. Click connect button and enter appropriate ID and PW to connect to remote desktop.

6. Perform scan test after opening notepad or wordpad from remote desktop.

Windows Mobile (M3 SKY, MM3, M3 ORANGE, M3 SMART WM)

Hotkey

Can I apply Hotkey irrelevantly to the form?

How to use Hotkey

Register Hotkey on openning scanner: ScanCtrl.RegHotKey(1, m_nHotKey, m_bSyncMode, m_nTimeOut);

Unregister Hotkey on closing scanner: ScanCtrl.UnRegHotKey(1);

Obtaining scanner data

```
private void OnScanData(object sender, ScannerDataArgs e)
{
	if (ScanListView.Items.Count > 7)
		ScanListView.Items.Clear();
	if (e.ScanData != "")
	{
		ListViewItem ScanData = new ListViewItem();
		ScanData.Text = e.ScanType;
		ScanData.SubItems.Add(e.ScanData);
		ScanListView.Items.Add(ScanData);
		PlaySound("\\windows\\Alarm1.wav", 0, (int)(SND.SND_ASYNC |
SND.SND_FILENAME));
	}
}
```

13. SOFTWARE

Common

Memory Allocation

How is Memory Allocation in M3 PDAs divided by between ROM and RAM?

M3 GREEN 128MB RAM / 256MB ROM

The 128MB RAM is divided up between REAL MEMORY for running applications and NON persistent Storage Space. This can be adjusted using the M3 Green Memory Slider Bar found in the control panel.

The 256MB ROM is Persistent storage. Approx 64 MB is used to HOLD and LOAD the Operating System. The remaining 192 MB is available under the /Flash disk Folder as PERSISTENT Storage.

M3 SKY, MM3 128MB RAM / 256MB ROM

The 128MB RAM is REAL program memory used for running applications. The 256MB ROM is divided between storage space, persistent storage and OS Files. The breakup is as follows

OS files - WM5.0: 40MB   WM6.1: 64MB

Storage - WM5.0: 80MB   WM6.1: 44MB

Flash Disk = ROM size – (OS+Storage) = 140MB

All STORAGE and FLASH DISK is PERSISTENT. The only difference is a CLEAN BOOT will ERASE Storage but leave FLASH DISK intact.

M3 ORANGE 256MB RAM / 1GB ROM

ROM (1GB) = BOOT(1MB) + Kernel image(67MB) + Kernel filesystem(60MB) + User filesystem(870MB)

Simply, OS (WM6.5) is around 70MB, Device space = 60MB, Flash Disk = remained space.

M3 T 256MB RAM / 256MB (1GB) ROM

ROM (256MB) = OS (56MB) + Flash Disk (180MB)

M3 POS 128MB RAM / 256MB (1GB) ROM

ROM (256MB) = OS (55MB) + Flash Disk (180MB)

M3 SMART WM 256MB RAM / 1GB ROM

ROM (1GB) = OS (100MB) + Device space (60MB) + Flash Disk (840MB)

M3 SMART CE 256MB RAM / 512MB ROM

ROM (512MB) = OS (70MB) + Device space (100MB) + Flash Disk (330MB)

Microsoft .NET Compact Framework Version Information

The .NET Compact Framework (NETCF) version may vary depending on the OS version.

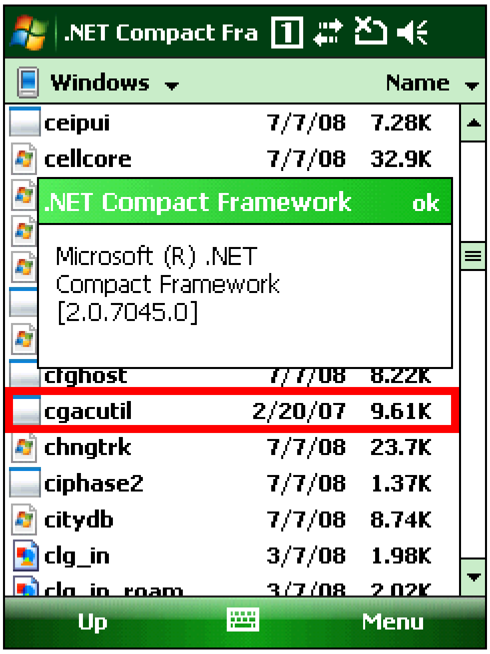
Please refer to below table for preinstalled version of Compact Framework.

M3 PDA Models	OS	CF Versions
M3 T	CE 5.0	3.5
M3 SKY	WM 5.0, WM6.1	1.1, 2.0
M3 GREEN, M3 POS	CE 5.0	2.0
MM3	WM 6.1	2.0
M3 ORANGE	WM 6.5	2.0
M3 RED	CE 4.2	1.0
M3 SMART CE	CE 6.0	2.0
M3 SMART WM	WM 6.5	2.0

However, it can be upgraded to later versions by installing a CAB file which can be downloaded from MS home page.
In M3 SKY and MM3, NETCF V3.5 can be installed by M3.ini.
Please refer to Application Manuals linked below for more information.

Link : Application Manual

The NETCF version can be viewed from\My Device\Windows\cgacutil.exe .



Digital Signature

Add Digital Signature to Your Program

M3 can provide a utility to add digital signature to a program. Unsigned program will show a warning message as shown in the below image when you launch the program.



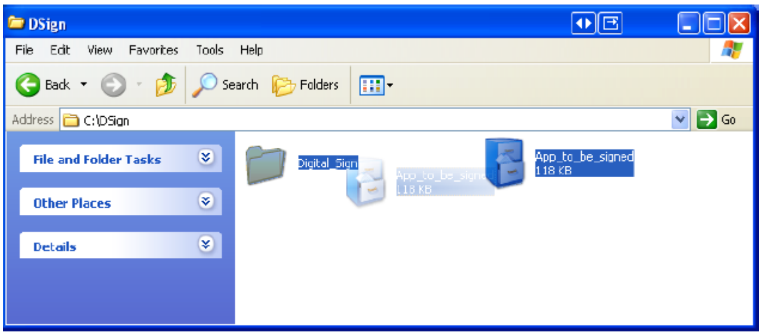
“The program is from an unknown publisher. Running it can possibly harm your device. Do you want to continue?"

To avoid the warning message pop up, the program needs to be signed and this document will guide through the signing process.

i. Digital Signing Process

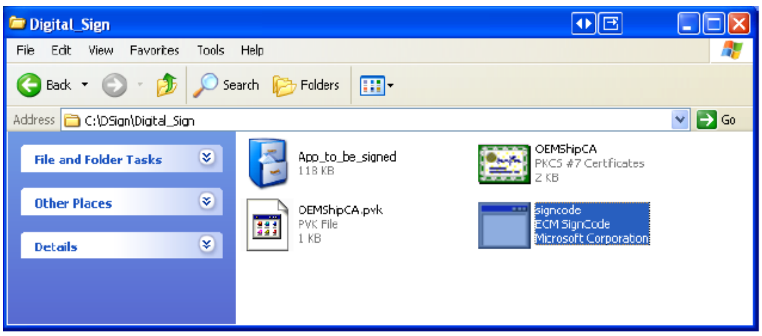
1. Download the digital signing utility (DigiSign.zip). It will be provided as a zip file which contains “signcode.exe, OEMShipCA.spc and OEMShipCA.pvk”. Once you receive the utility, unzip it to a folder and make sure you have the tree files.

2. Copy .exe or .cab* file of your program to the same folder where the signing utility is unzipped.

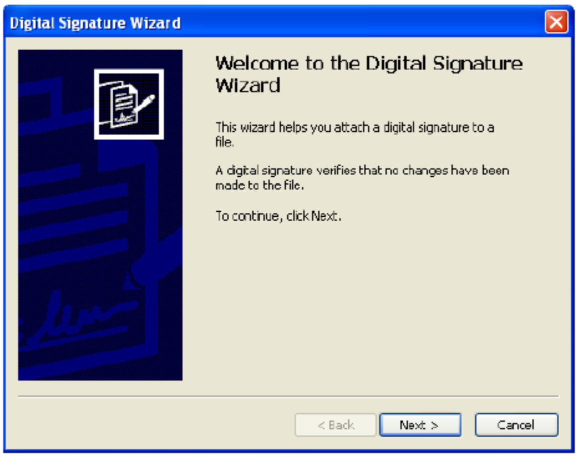


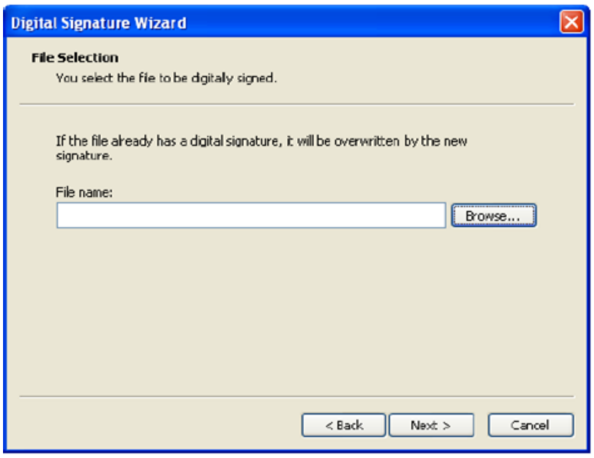
* Supported file format: .exe, .dll, .ocx, .cab, .stl, .cat

3. Launch signcode.exe .

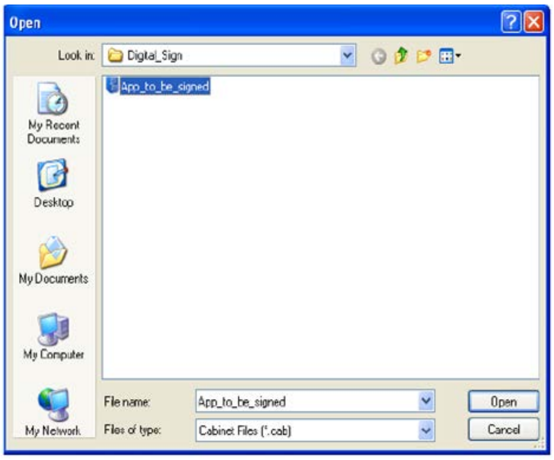


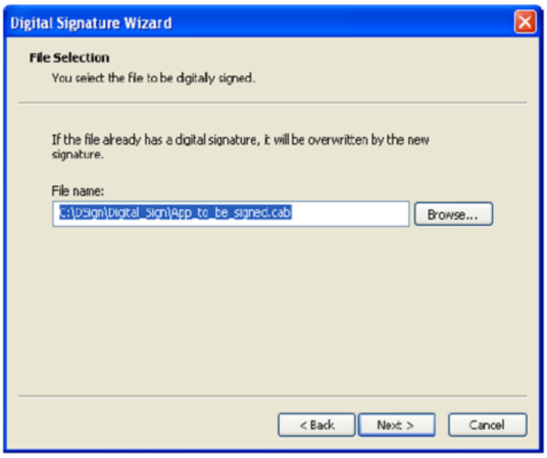
4. When the utility launches, follow the directions displayed on the screen. Click next to continue.



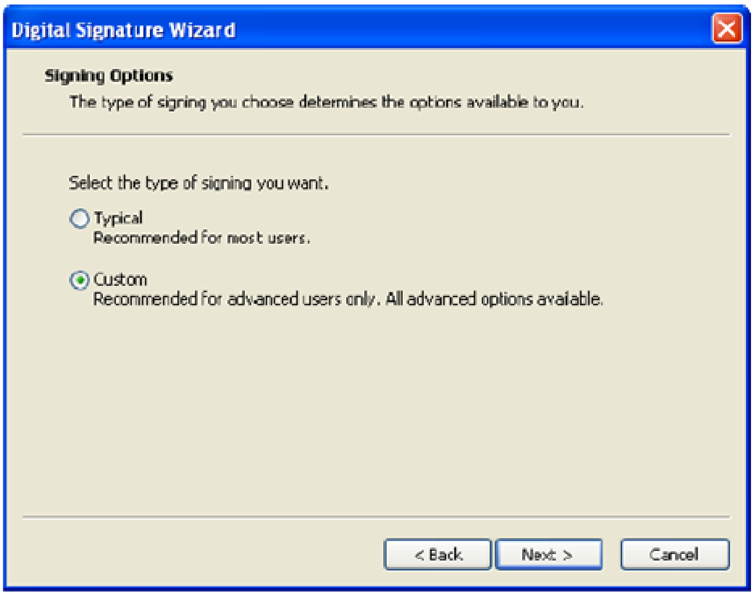


5. Click browse and select a file that you wish to add digital signature then click next.

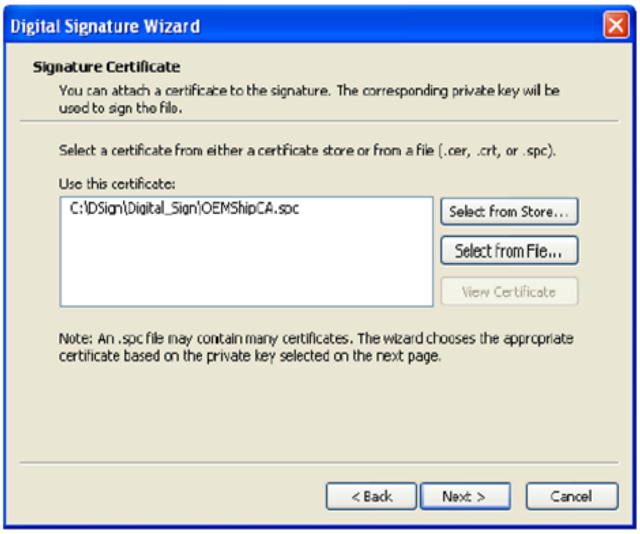


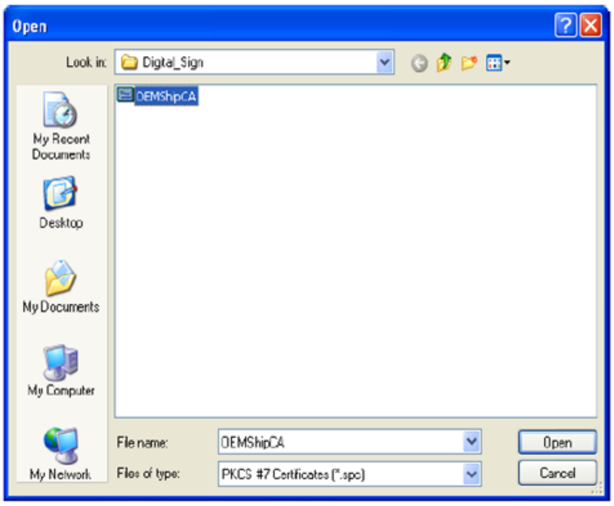


6. Select Custom when it ask for signing option.

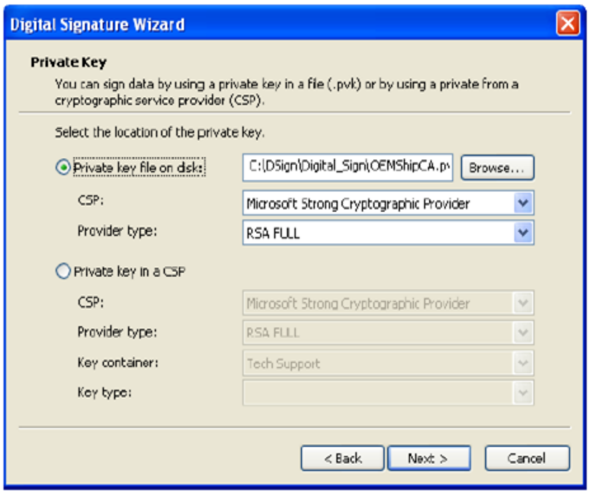


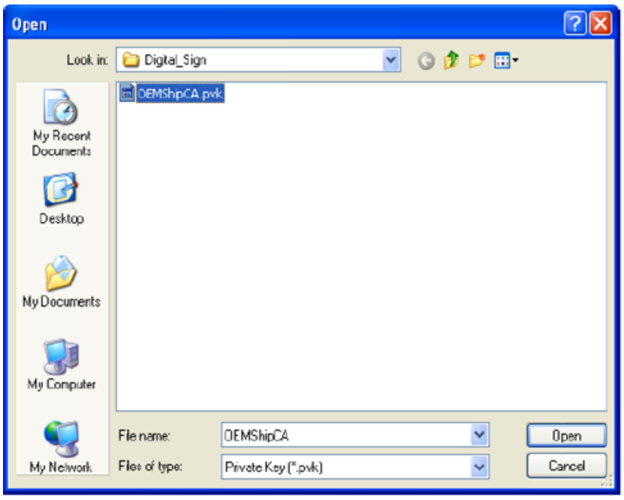
7. Click Select from File then select OEMShipCA.spc .



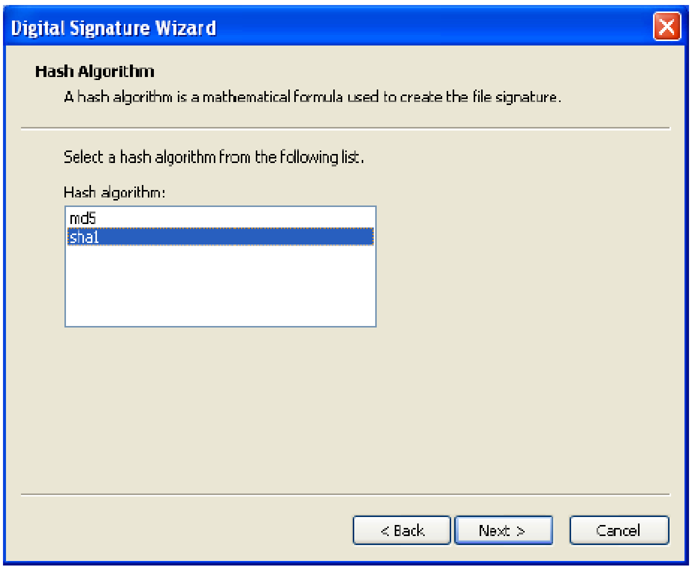


8. Choose private key file on disk and select OEMShipCA.pvk file.





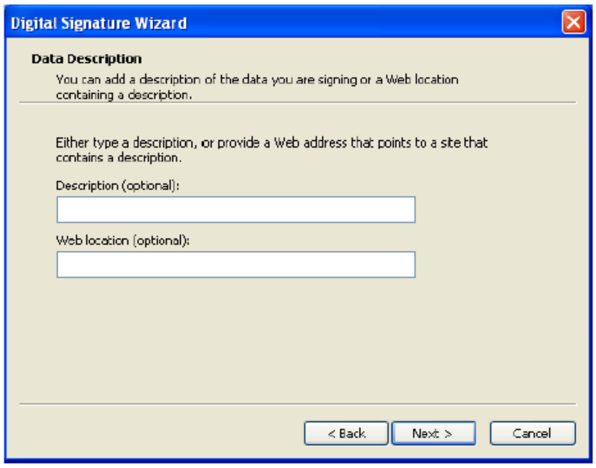
9. Select hash algorithm. By default it is set to sha1.



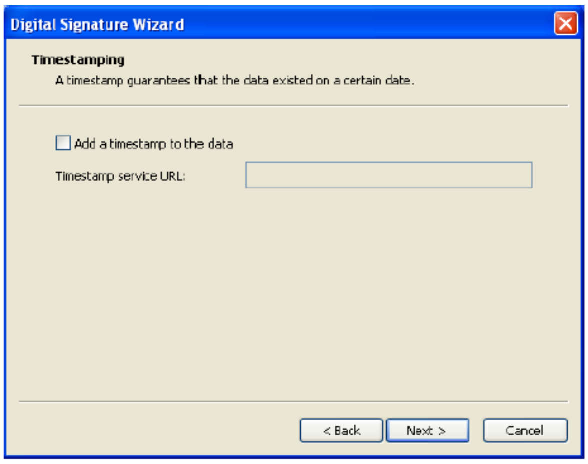
10. Select additional certificate options as required. It is optional. You can just click next to continue.



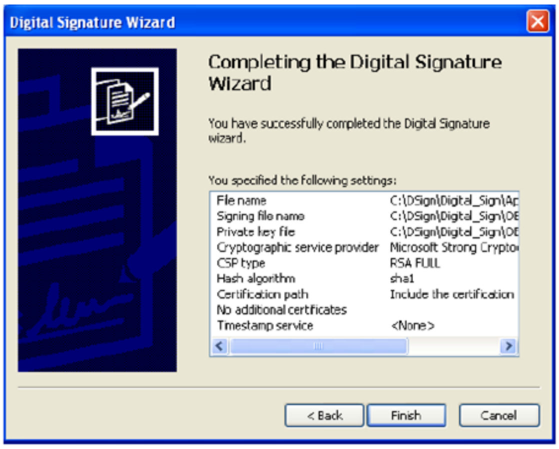
11. Data description is also optional. You can just click next to continue.



12. Time stamp is also optional. You can just click next to continue.

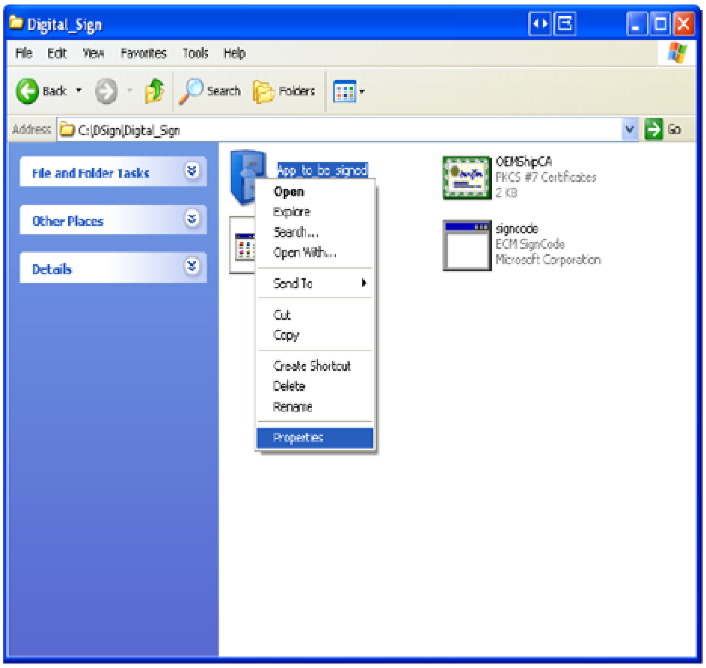


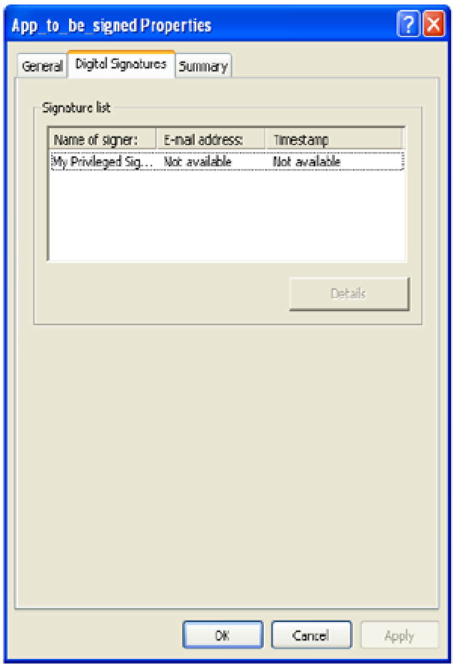
13. Adding a digital signature to a file has been complete.





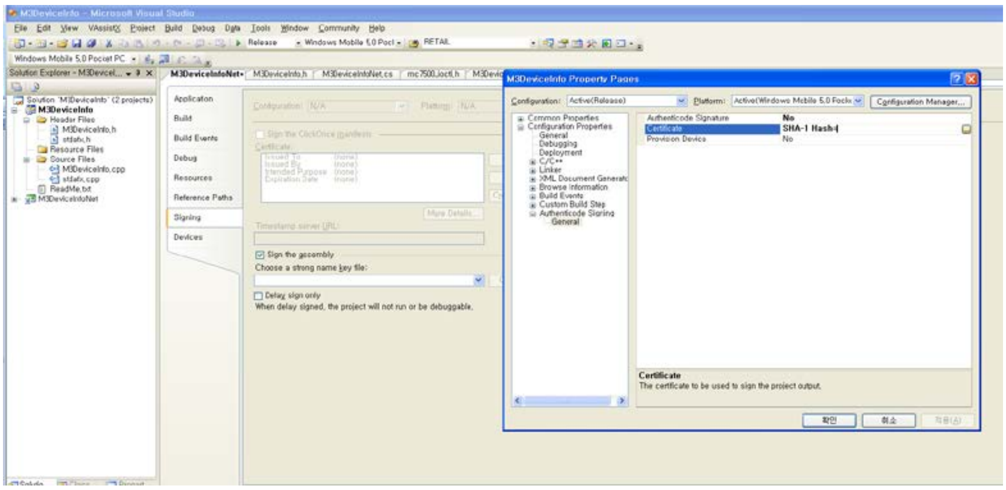
14. You can check it from the properties menu of the file.



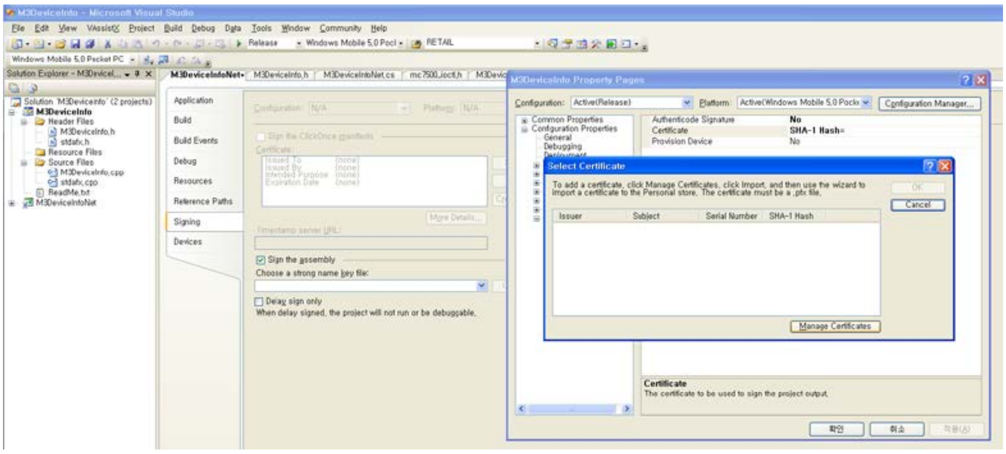


ii. Signing in Visual Studio

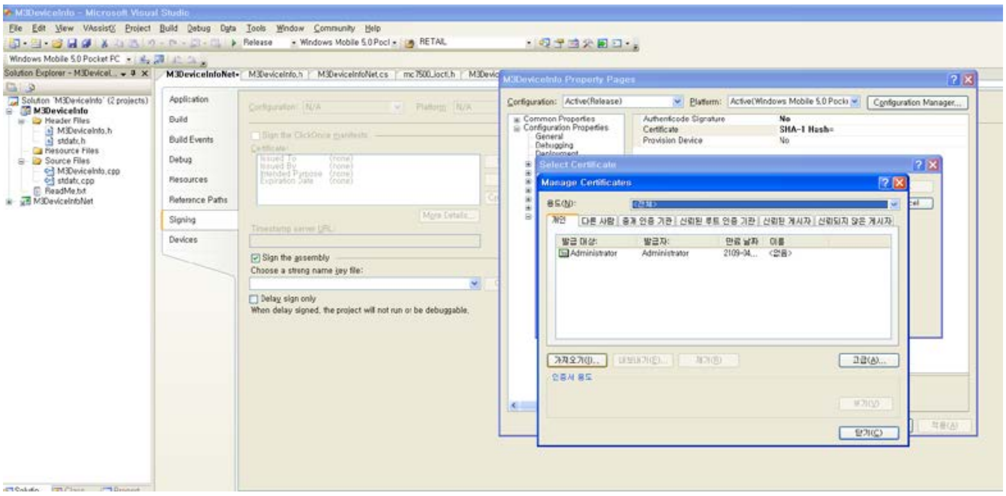
Project R Click → 'Authenticode Signing' → Click Certificate '…'



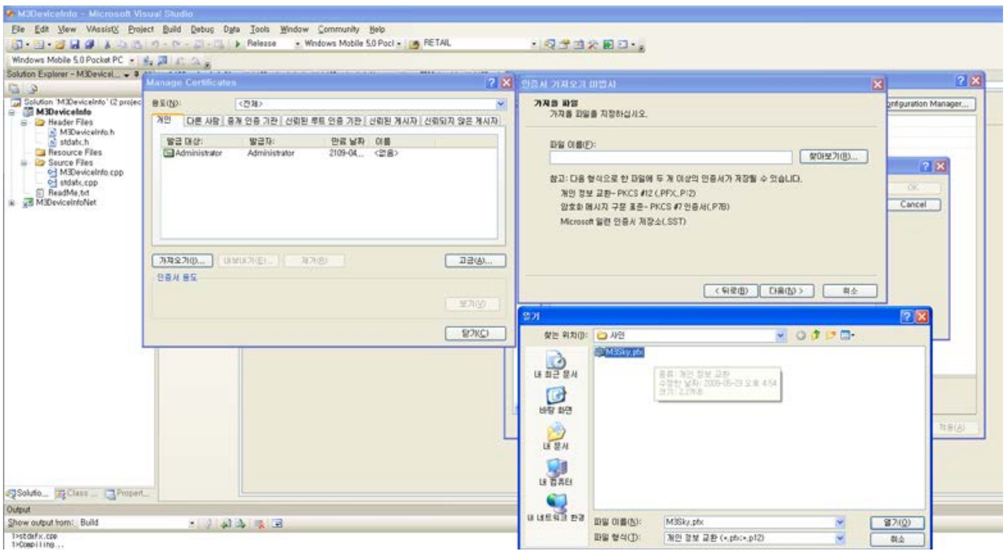
Click ‘**Manage Certificates**’



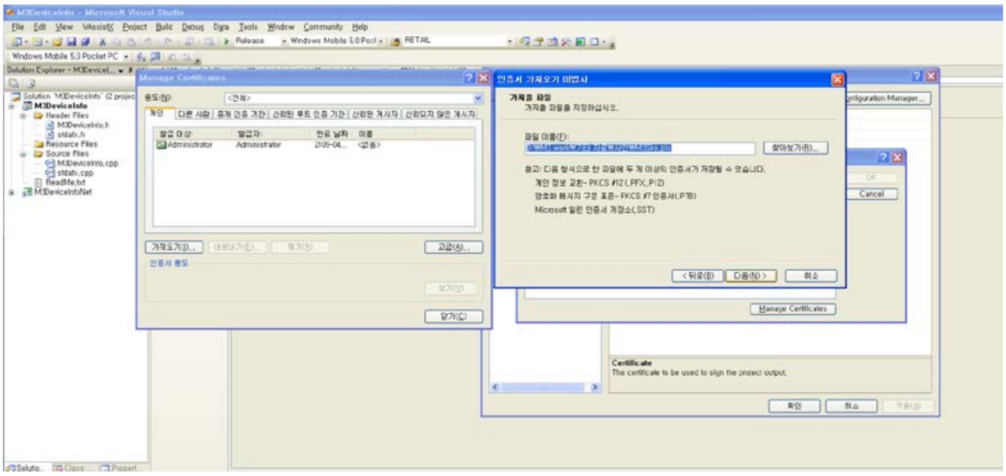
Click '**Import**'



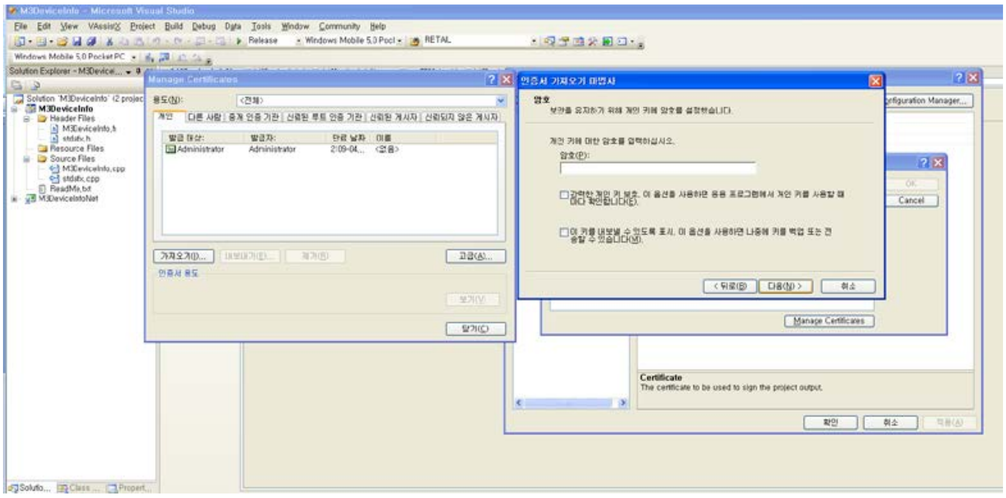
In Wizard, File Open → File Format (*.pfx), File select M3Sky.pfx



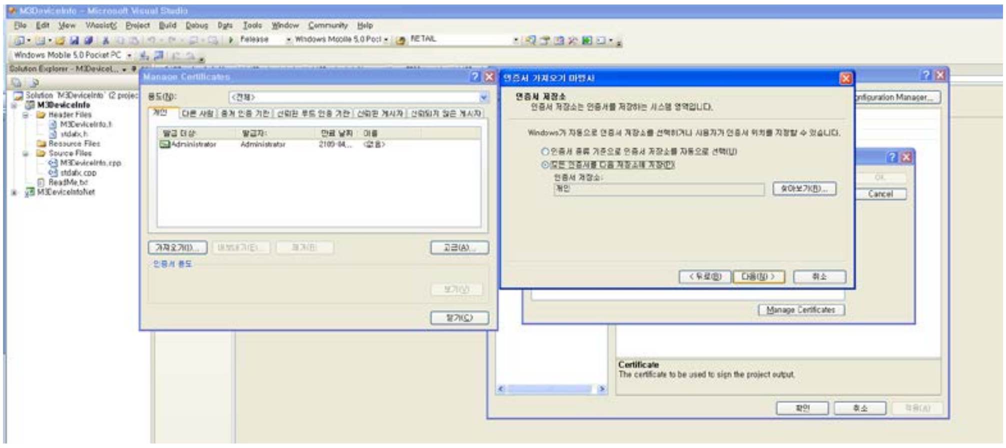
Click ‘**Next**’



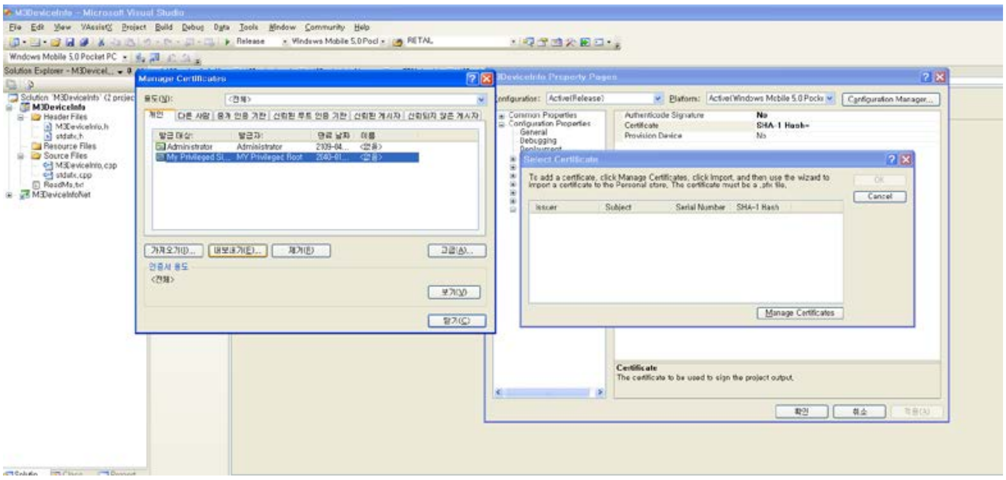
Password Page (Ignore) → Click ‘**Next**’ …



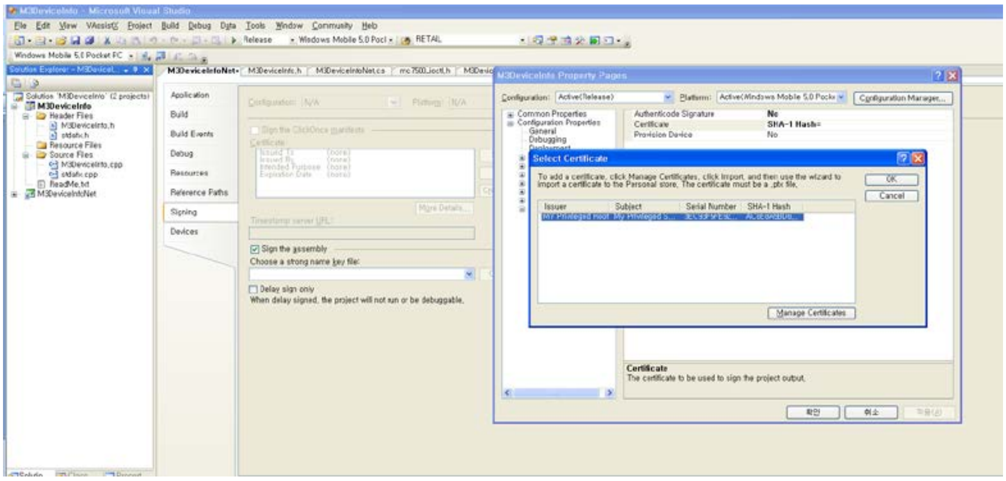
Click ‘**Next**’



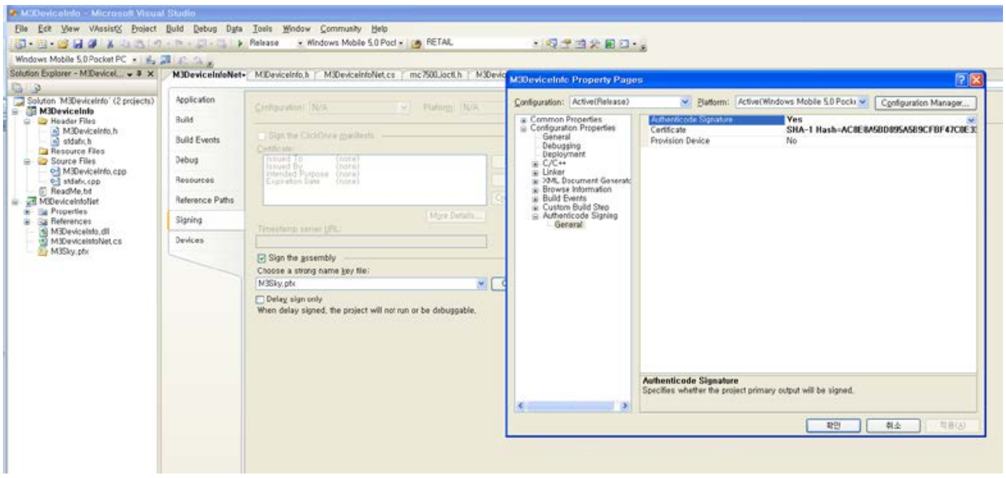
Select My Privileged Signing Certificate.



Click ‘**OK**’

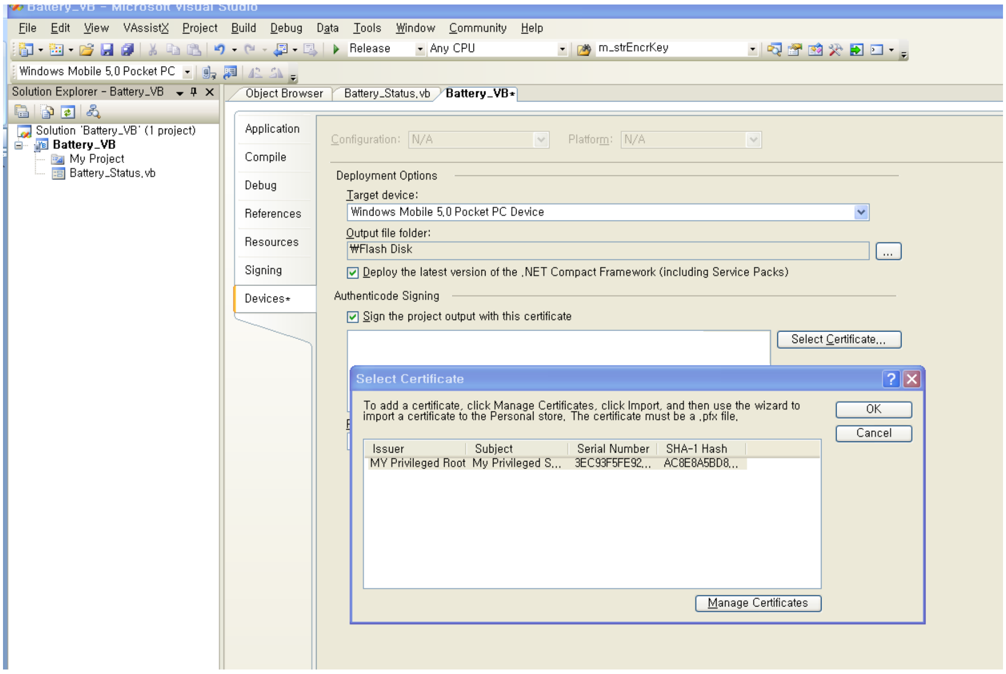


Change Authenticode Signature → ‘**YES**’

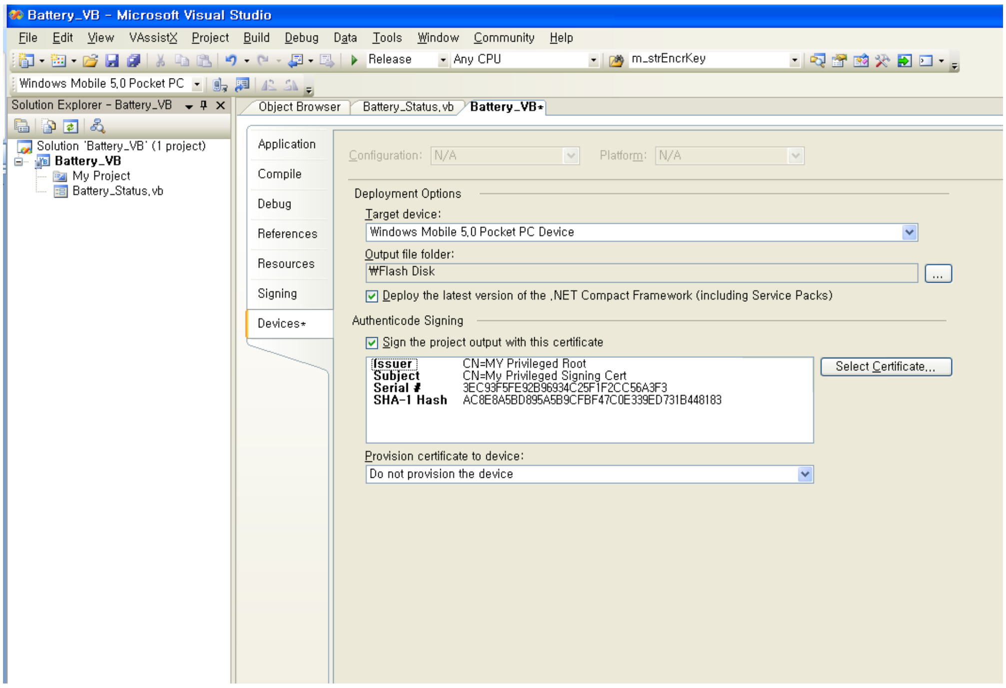


For .NET

Property → Devices → Check 'Sign the…' → Click Select Certificate → Select 'My Privileged …' → ‘**OK**’



Result



iii. Cancellation of All Security Setting.

Set 0000101a Value as 1 from [HKEY_LOCAL_MACHINE\Security\Policies\Policies]

Windows CE (M3 GREEN, M3 T, M3 POS, M3 SMART CE)

How to use MS-Backup

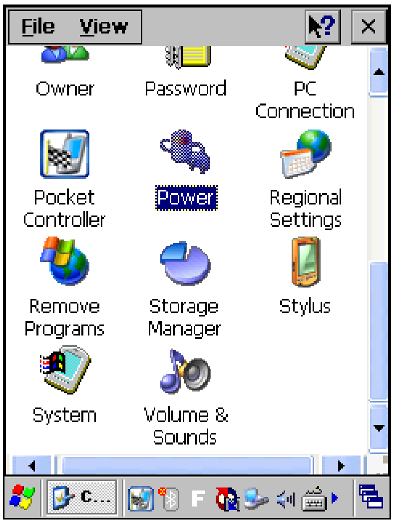
MS-Backup is a utility to restore the PDA configurations and registries after hard reset.

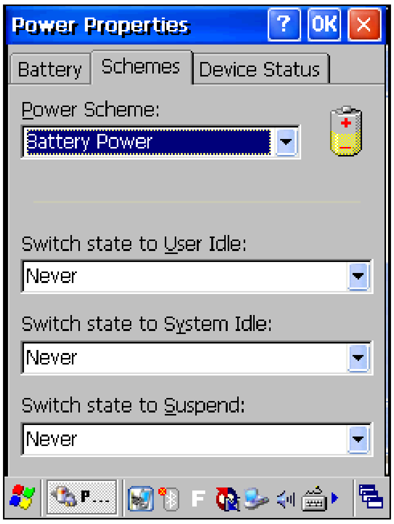
To use MS-Backup you must have copy of the flash disk files provided with the OS.

* MS-Backup is not available in Windows Mobile based PDAs. Instead, spritebackup can be used.
For more details on spritebackup, visit http://www.spritesoftware.com/

Preparation

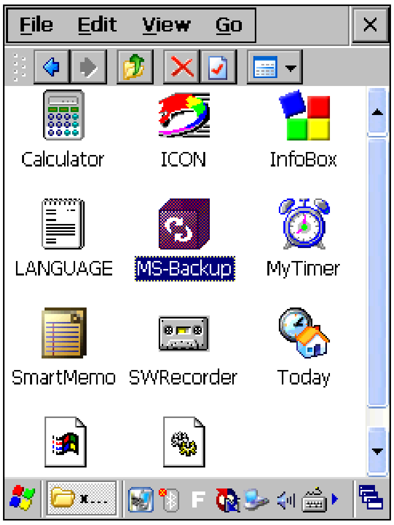
To prevent going to sleep mode, set the power configuration as below.

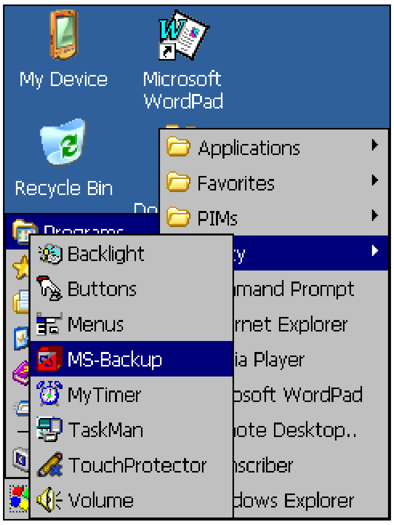




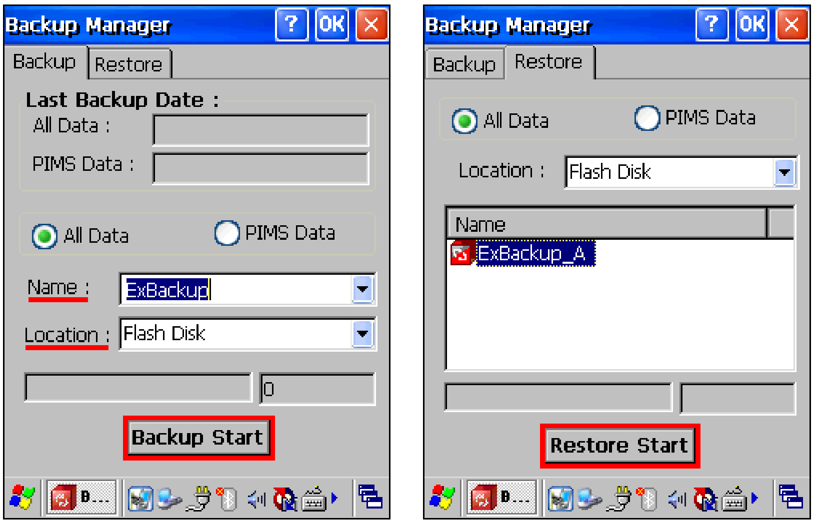
MS-Backup Usage

Launch MS-Backup by either [My Device] → [Flash Disk] → [xPIMS] → [MS-Backup.exe]
or [Start] → [Programs] → [Utility] → [MS-Backup]. Refer to the following images respectively.





From MS-Backup, select whether you want to backup all data or PIMS data. Then, Select Name, Location and click Backup Start to backup the data.

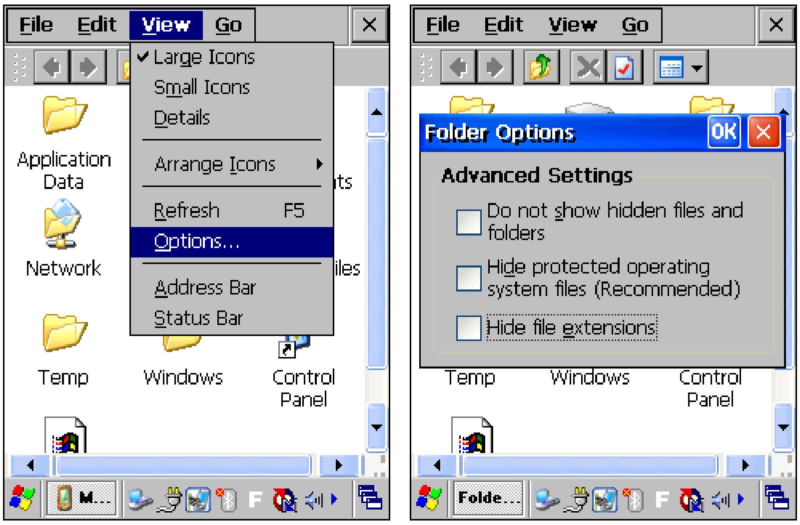


To restore the data, go to 'Restore' tab and select appropriate data and click 'Restore Start'.

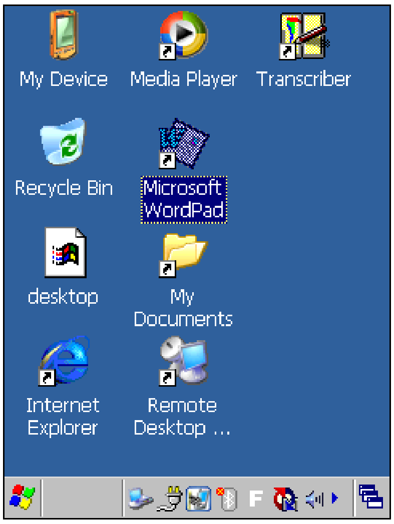
Auto Restore After Hard Reset

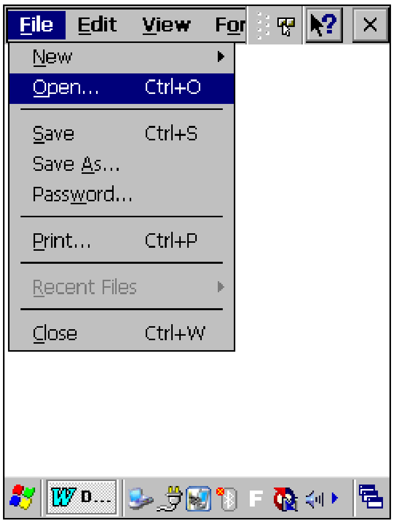
Automatically restoring data after hard reset requires a little configuration in M3.ini.
In addition, **backup data must be saved as 'ExBackup'** as shown in the above figures.

1. Set folder options to view hidden files.
   [My Device] → [View] → [Option] → Uncheck all options.

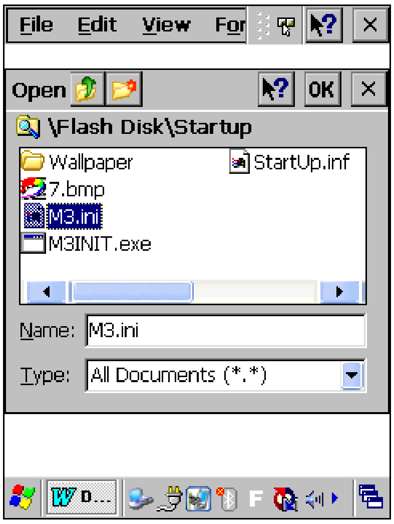


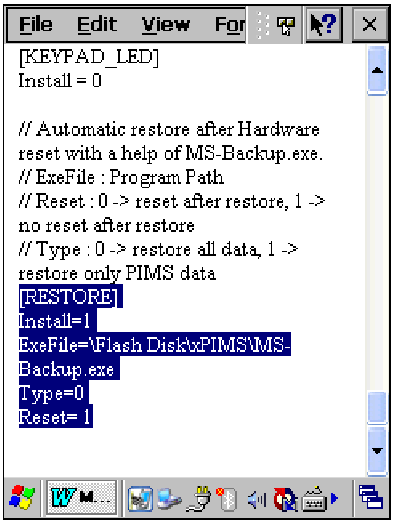
2. Open M3.ini file with Microsoft WordPad.
   Launch WordPad → [Open] → select M3.ini in \Flash Disk\StartUp





3. From the M3.ini file, set Install and Reset value of [RESTORE] to '1' as shown in the following figure.





After hard reset, the device will automatically restore the backup data (ExBackup) and perform soft reset after a successful restoration.

How to install CAB file into M3 GREEN with new CPU

Unlike to the very first M3 GREEN, later version of M3 GREEN's CPU is different from older version. So sometimes installing CAB file does not work, in this case, simply change 'Processor Type' within CAB file to be installed to 'ALL' or change ID of 'Processor Type' to '0'.(ie. Old version's Processor type ID is 2336).

Application	
Company Name	Default Company Name
Application Name	SmartDeviceCab1
Allow Uninstall	True
Default Install Dir	%ProgramFiles%₩Sample
Cabinet	
Processor Type	All / CEF (ID=0)
Compressed	False
Platform	
Platform Name	
Minimum Platform	0.0
Maximum Platform	0.0
Operating System	
Minimum OS Version	4.0
Maximum OS Version	6.99
Minimum OS Build	0
Maximum OS Build	0xE0000000
Unsupported Platforms	
Provisioning	
Pre XML	(Click here to ADD...)
Post XML	(Click here to ADD...)

Windows Mobile (M3 SKY, MM3, M3 ORANGE, M3 SMART WM)

Disable the MS customer feedback

Change the registry by M3.ini.

[HKEY_LOCAL_MACHINE\\System\\SQM]
\"Enable\"=dword:0
\"EnableUI\"= dword:0

[HKEY_LOCAL_MACHINE\\ControlPanel\\Customer Feedback]
\"Redirect\"=\"ceipui.exe\"
\"Group\"=dword:1
\"Hide\"=dword:1

SD Card Format on PDA

Unlike CE, SD card cannot be formatted in WM device so that the 3rd party solution is needed.

Refer to below link.

Link:
http://www.mobiletopsoft.com/pocket-pc/download-flash-format--storage-card-management-utility-2-81.html

Installation/Launching from Storage Card

Cab file Auto Installation from Storage Card

Automatically installing Cab files after soft/hard reset can be done through M3.ini.
In M3.ini, [CAB_INSTALL] section indicates whether one or more cab files are automatically installed or not. It supports up to 100 cab files. For more information, please see StartUp > SKY, MM3 > M3.ini and StartUp.inf Guide.
Please refer to below linked Application manual.

Link : Application manual

When a cab file is installed using M3.ini, the program will be installed on the Device. Install location selection is not provided. Therefore, installing a program to Flash Disk or Storage Card is not possible.

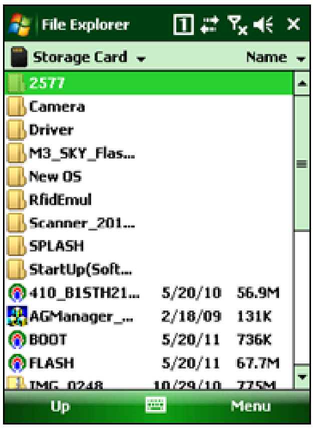
Launching a Program when Storage Card is inserted

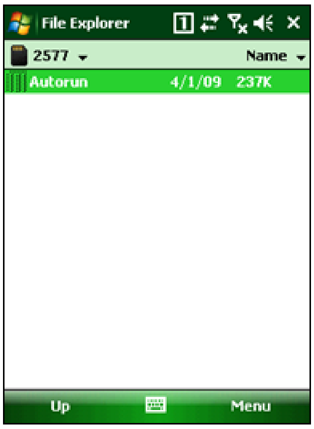
Automatically launching a program when a storage card is inserted can be done by creating a well know folder called '**2577** '(MCStart folder for Windows CE).

First, 2577 folder must be created at the root folder of the storage card.

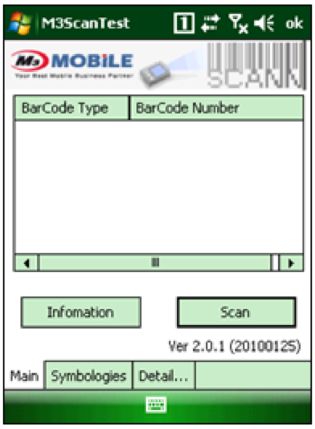
Then, **Autorun.exe** file that executes the necessary files **must** be located in the 2577 folder.

'M3ScanTest' program is used as an example in this document.





As soon as SD card is inserted in SD card slot, below screen will be showed up.



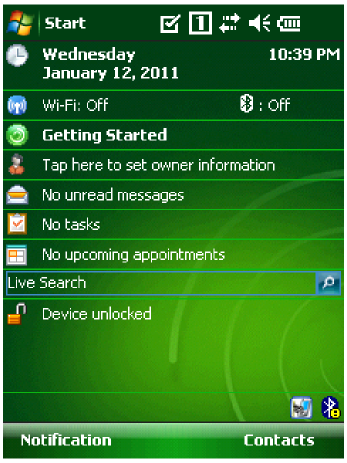
Note: 2577 is a system folder so that the folder is hidden.

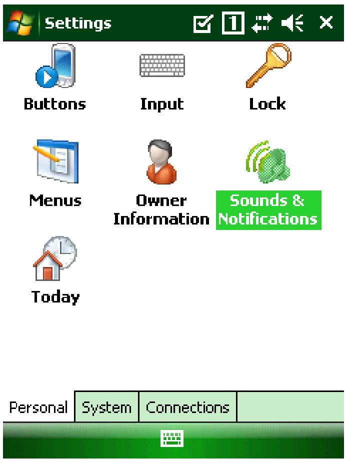
SMS pop-up window

How can I disable the pop-up window when receiving SMS?

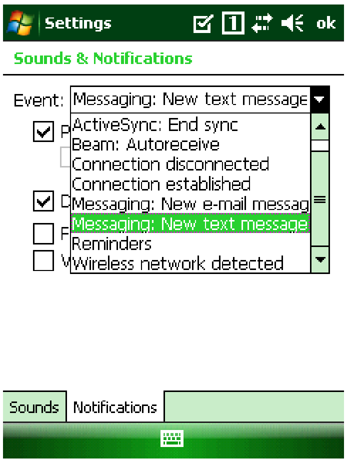
There are two ways not to show the pop-up window.

1. Follow below steps.
[Start]->[Settings]->[Sounds & Notifications]





Select “Messaging: New text message” of Event section.





Uncheck “Display message on screen”.

2. Change the registry

HKLM\SOFTWARE\MICROSOFT\INBOX\SETTINGS\SMSNoSentMsg

Change the value from 0 to 1 then reboot the device.

Memory Size Change (M3 SKY, MM3)

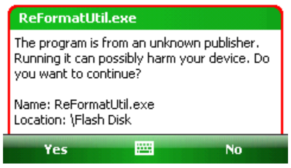
User can change the increase the device memory by reducing Flash Disk storage or decrease the device memory by increasing the Flash Disk storage.

This can be done simply by using [ReformatUtil.exe]().

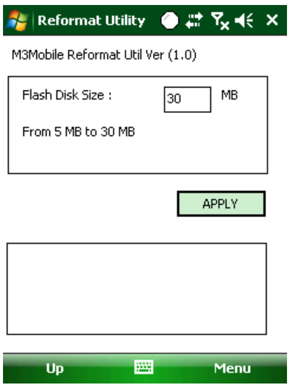
Follow the steps below to change the memory size.

1. Download and copy the file in to the PDA.

2. Run ReformatUtil.exe on the device. When a warning message pops up, click 'Yes' to proceed.



3. Change the Flash Disk Size as required and click on APPLY button. The maximum Flash Disk size is limited by the ROM size.



ROM Size	128MB	256MB
Default Flash Size	20MB	140MB
Max. Flash Size	30MB	160MB

Please refer to FAQ section 13.C.Memory Allocation for more details on memory allocations.

4. On the following warning screen press '1' keypad to proceed.

```
[SELECT]

All contents will be lost.

Continue?


0. NO / 1. YES
```

5. When a reset message appears, press '0' keypad to reset the device.

```
[RESET DEVICE]

Re-Formatting done.

Reset Device!!


0. RESET
```

Note that the storage capacity will return to its factory default configuration if 'Format All' is performed from boot menu.

How to use WM6.5 IE as WM5.0 IE

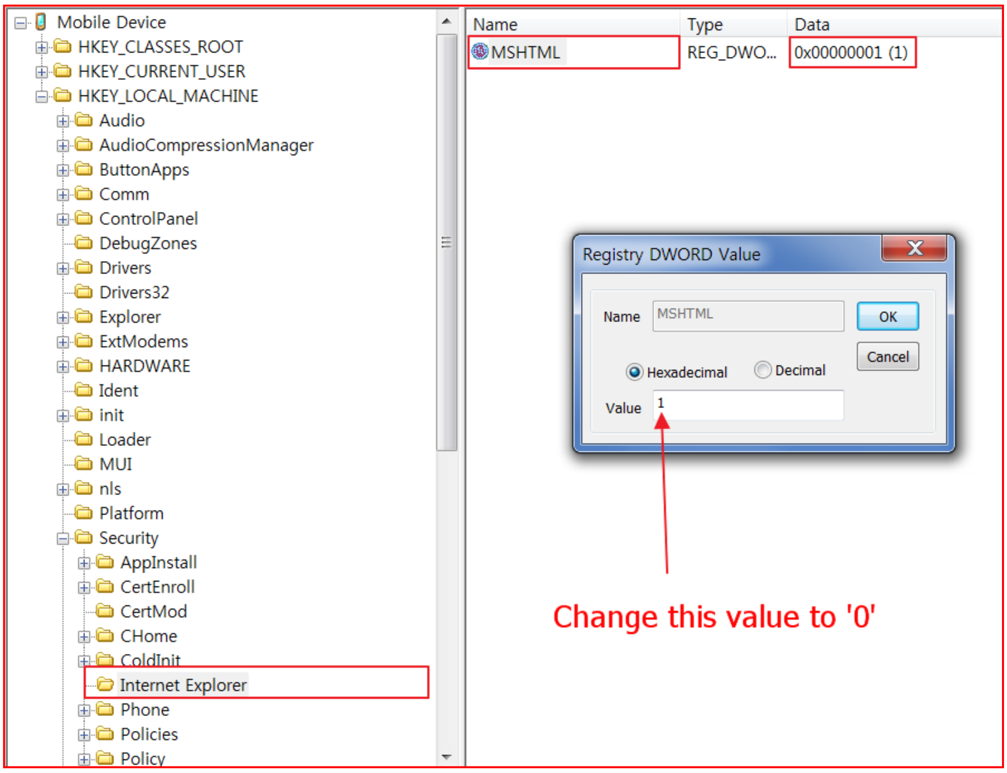
Some web pages which has been designed for PC is not likely to be displayed properly on Internet Explorer pre-installed on Windows Mobile 6.5, therefore to be able to browse those, you can adopt previous version of Internet Explorer style to Windows Mobile 5.0.

Please copy registry value as below, and reset device to save setting, if so you will be able to use Internet Explorer of WM6.5 in WM5.0's format

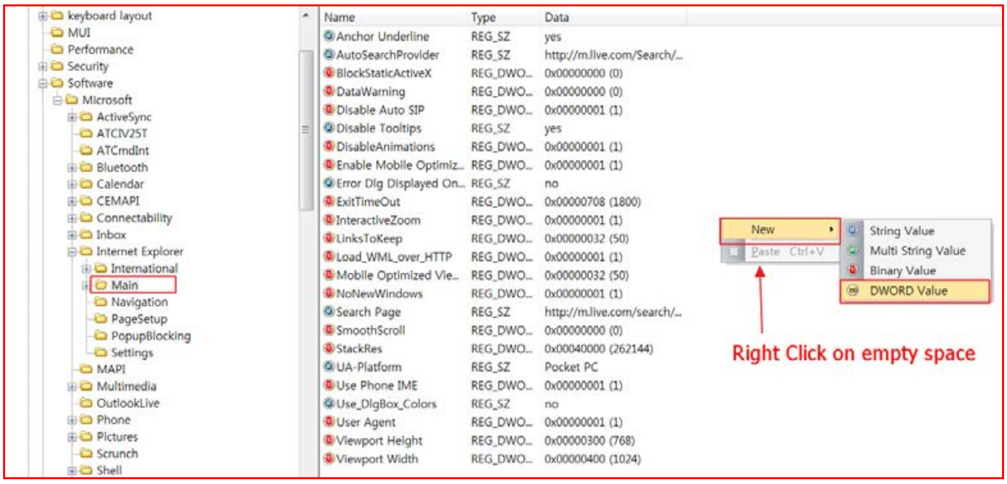
Via Registry Modification	**RegSetValue=/H dword[HKEY_LOCAL_MACHINE₩Security₩Internet Explorer]MSHTML : 0** **RegSetValue=/H dword[HKEY_CURRENT_USER₩Software₩Microsoft₩Internet Explorer₩Main]MakeFit : 1**
Via StartUp.inf Modification	**RegSetValue=/S dword[HKEY_LOCAL_MACHINE₩Security₩Internet Explorer]MSHTML : 0** **RegSetValue=/S dword[HKEY_CURRENT_USER₩Software₩Microsoft₩Internet Explorer₩Main]MakeFit : 1**

ie) When modifying registry value.

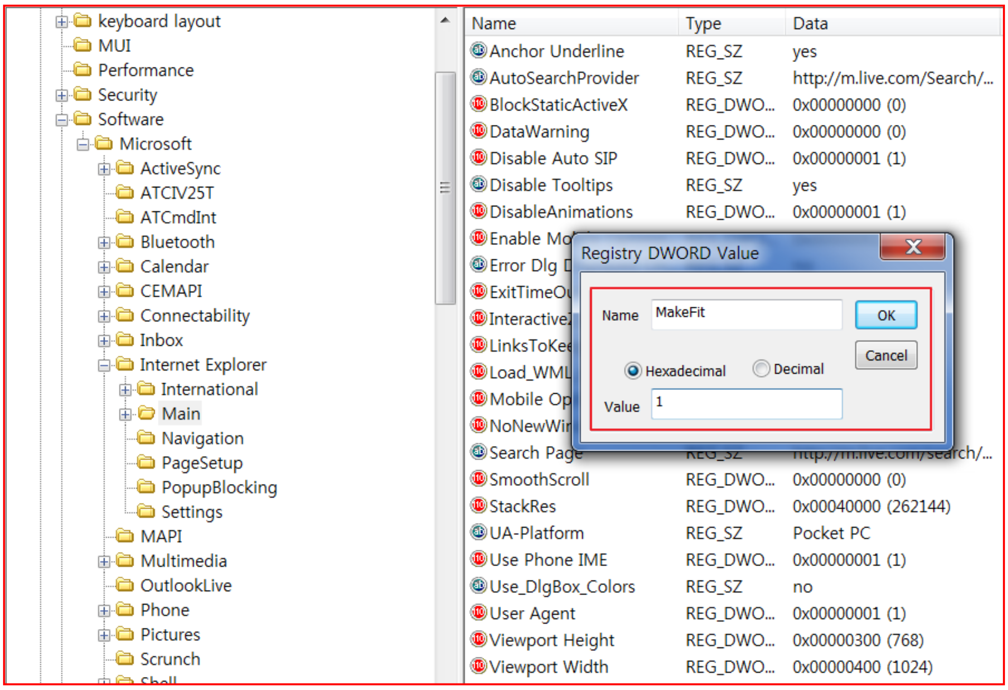
Step 1



Step 2


New
Paste Ctrl+V
String Value
Multi String Value
Binary Value
DWORD Value
Right Click on empty space

Step 3


Registry DWORD Value
Name
MakeFit
OK
Cancel
Hexadecimal
Decimal
Value
1

14. WLAN

Common

Summit Client Utility (SCU) Profile Saving

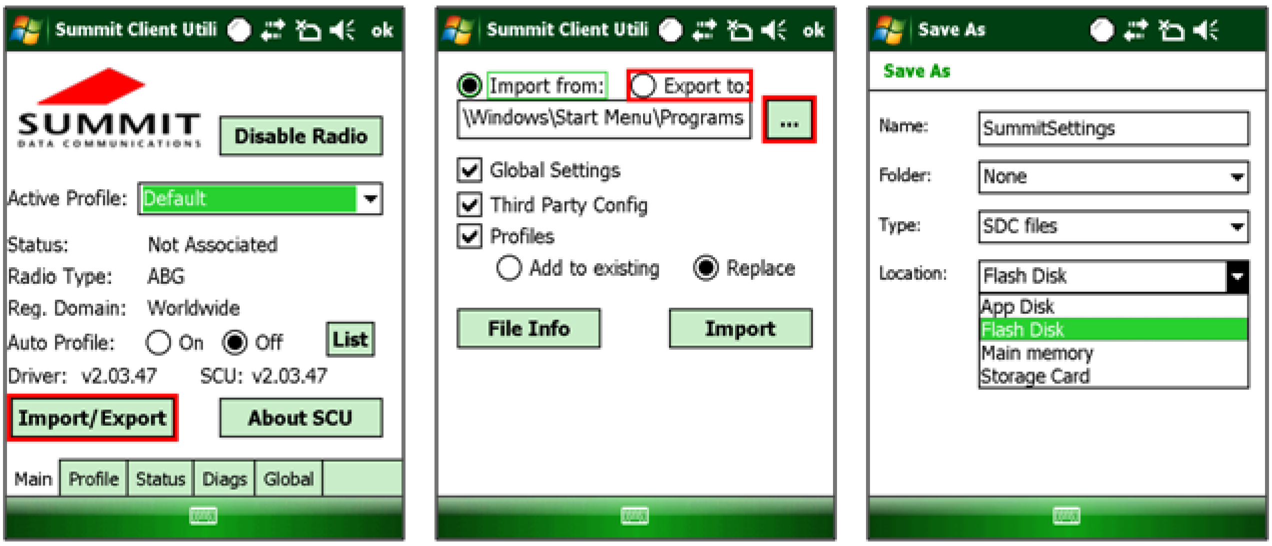
How to import/export WLAN profile in SCU?

Importing and exporting of WLAN profiles saved in Summit Client Utility (SCU) is possible by editing the following registries.

HKEY_LOCAL_MACHINE\Comm\SDCCF10G1\Parms\Configs\GlobalConfig\adminOverride
HKEY_LOCAL_MACHINE\Comm\SDCCF10G1\Parms\Configs\GlobalConfig\adminFiles

To save the profiles and settings, the user must log in as administrator. Hence, Admin Login button must be disabled. This is done by setting the registry value of adminOverride to 1.
Note that in adminOverride is already set to 1 as a default in Windows Mobile devices.

Then, setting adminFiles to 1 will show an additional button on the SCU main window as shown in below diagram. Note that the Admin Login button is removed.



Above figure on the left hand side, shows import/export options. To save the profiles and settings, click on 'Export to:' then specify the path where the data are saved. The file is saved as SDC file format.

To make the profile is persistent after hard reset or clean boot, the SDC files should be saved in Flash Disk. Otherwise, it will be lost.

When importing the saved profiles and settings, simply click 'Import from:' then locate the SDC file that you want to import from.

Summit Client Utility (SCU) Summary

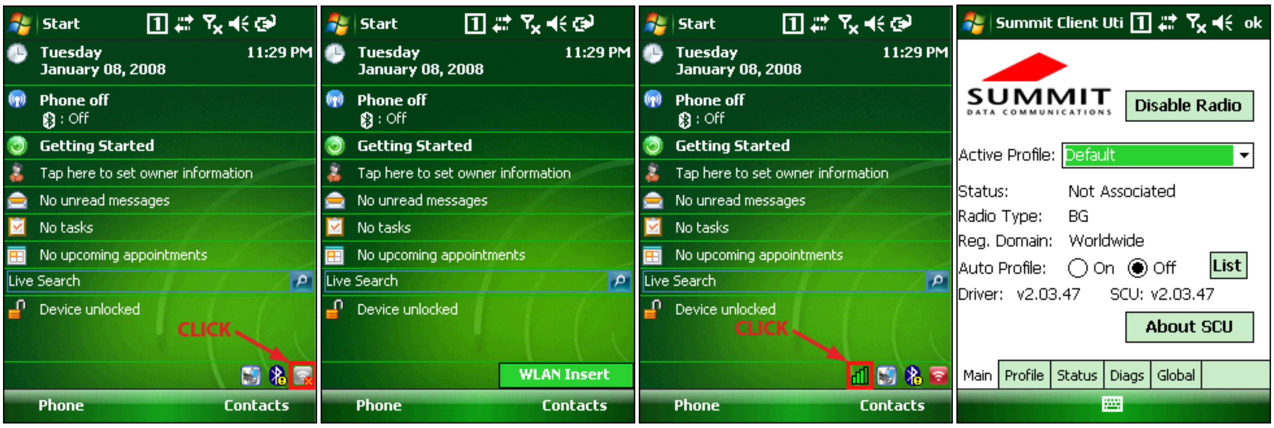
The Summit client utility (SCU) will be installed with the OS if the PDA is equipped with a Summit WLAN module.

Launching SCU

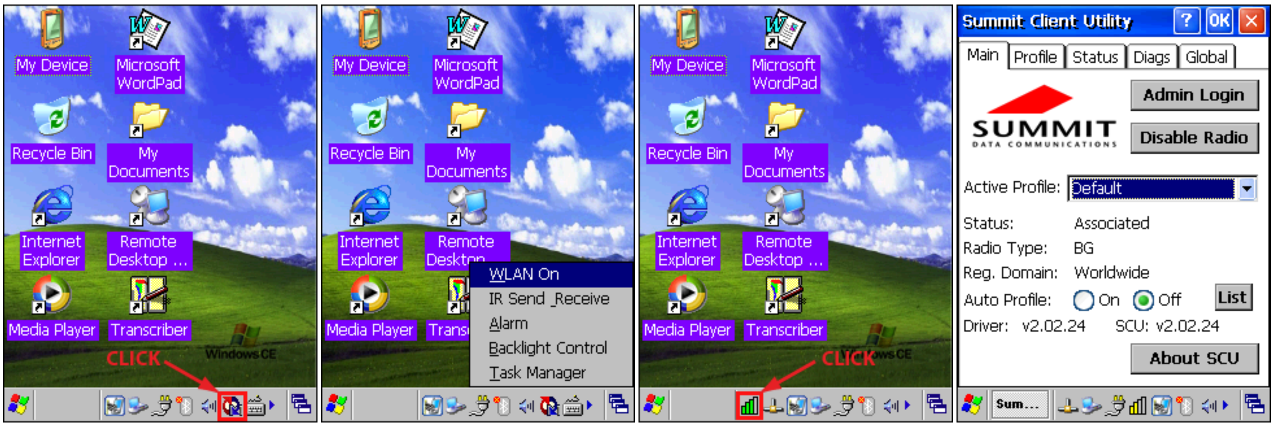
User can launch SCU in 2 or 3 (M3 T) ways:

1. Launching SCU using Tray icon.

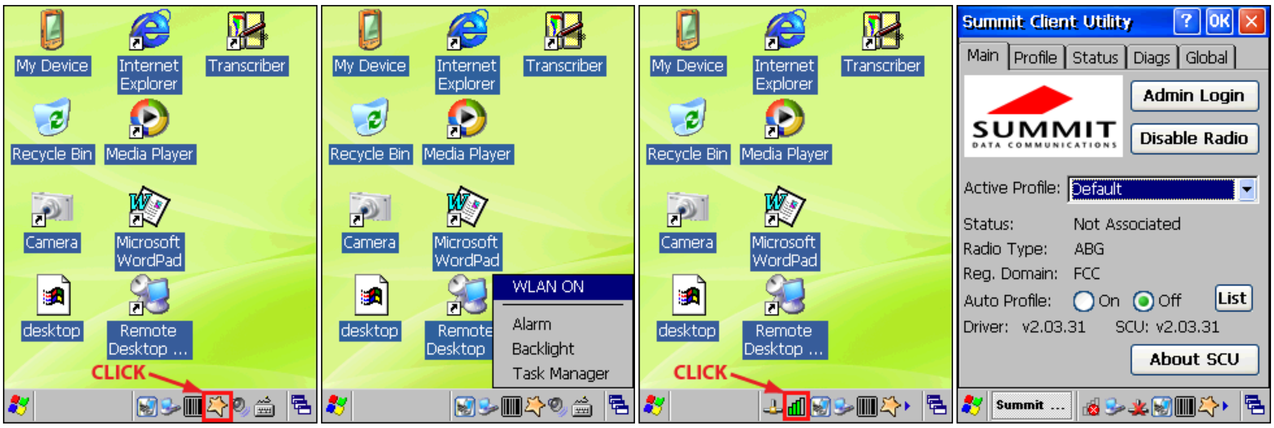
In Windows Mobile (M3 SKY, MM3)



In M3 GREEN

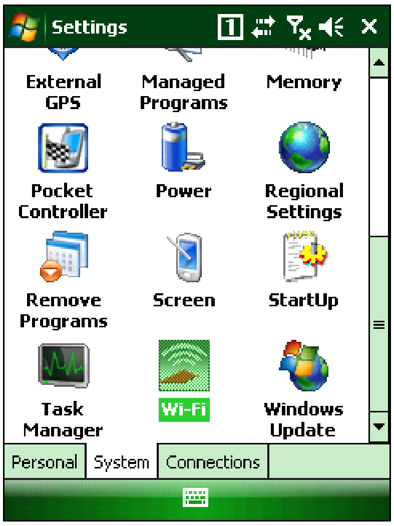


In M3 T



2. Launching SCU using Wi-Fi icon in Settings.

In M3 SKY, MM3 : [Start] → [Settings] → [System]



In M3 T : [Start] → [Settings] → [Control Panel]



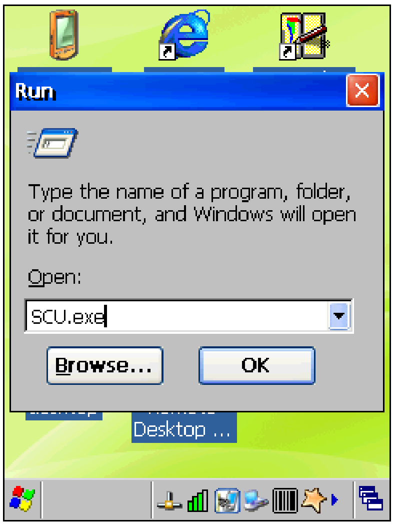
*Note that the Wi-Fi icon is not valid in M3 GREEN.

3. Launching SCU using 'Run'

In M3 GREEN: [Start] → [Run...] → Type 'SCU.exe' then 'Ok'



In M3 T : [Start] → [Run...] → Type 'SCU.exe' then 'Ok'



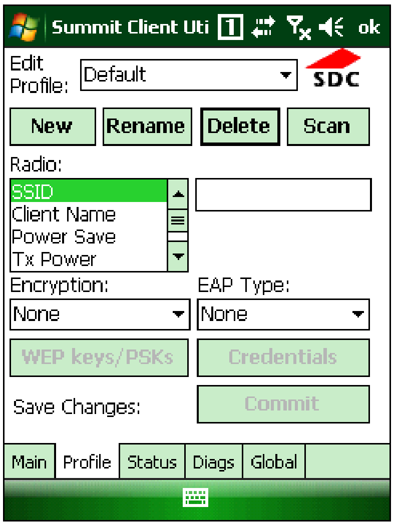
*Note that 'Run...' is not integrated in Windows Mobile.

SCU Configuration

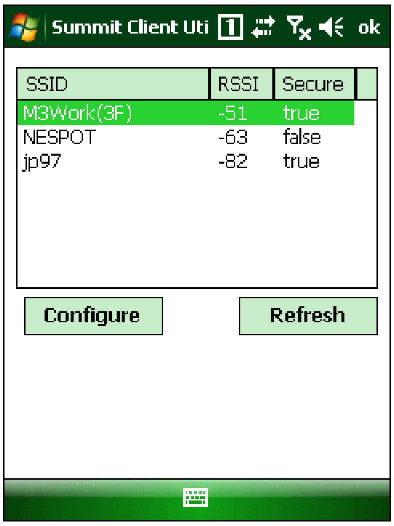
In both Windows Mobile and Windows CE devices, SCU has the same GUID and features. Hence, WLAN configuration demonstration is shown only in Windows Mobile.

The only noticeable difference is that in CE devices (M3 GREEN, M3T), Admin Login button exists in the main window of SCU.
Initial Admin Login password is 'SUMMIT' all in capital letters.

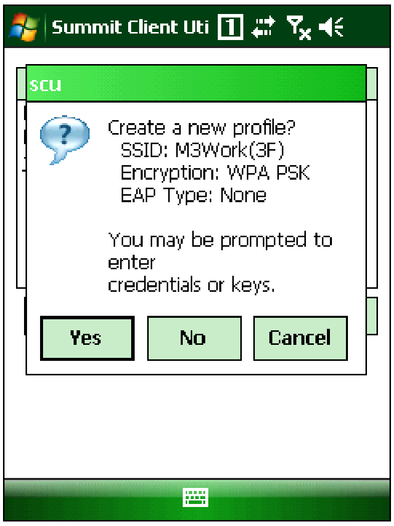
1. Go to 'Profile Window' then click 'Scan' to search available connections.



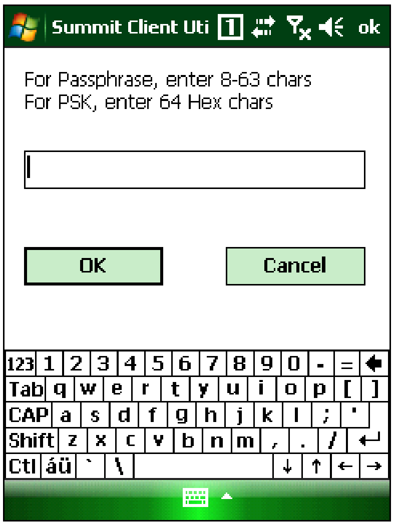
2. From search results, select AP that you wish to connect.



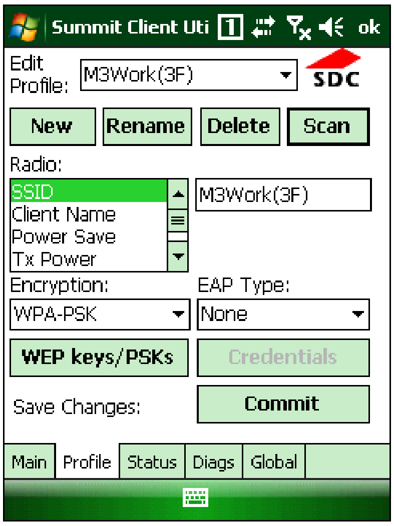
3. Then, it will ask you create a new profile and show summary of AP information (SSID, Encryption, EAP Type). Click 'Yes' to continue.



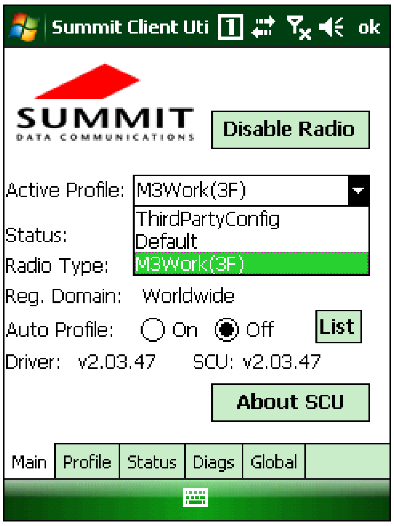
4. When it asks you to enter credentials to access the AP, enter it and click 'Ok'.

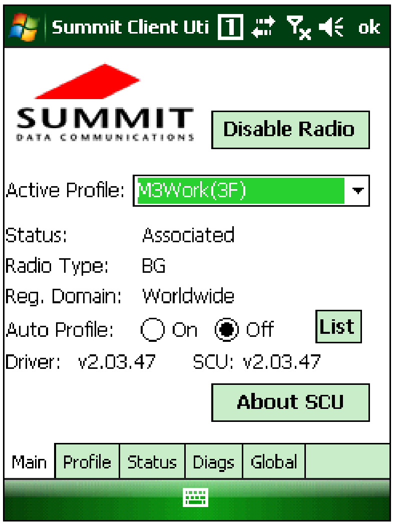


5. Created profile will have the same name as the SSID of the AP. To save the profile, click 'Commit'.



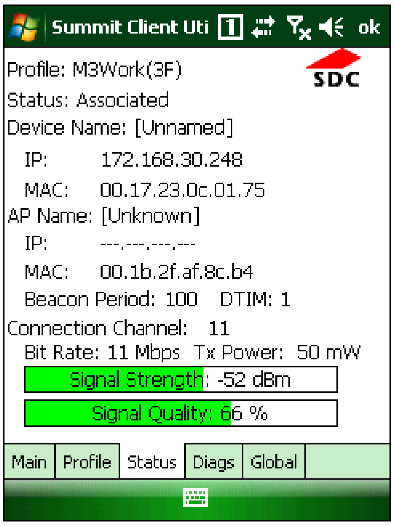
6. To activate the profile and connect to the AP, go back to the main window and select the created profile from the drop down menu of 'Active Profile'.





When it is connected to the AP, the status will change to 'Associated'.

7. To view the status in more detail, go to Status window. From there, you can view signal strength and quality graphically, and IP and Mac addresses.



Summit WLAN Domain Change

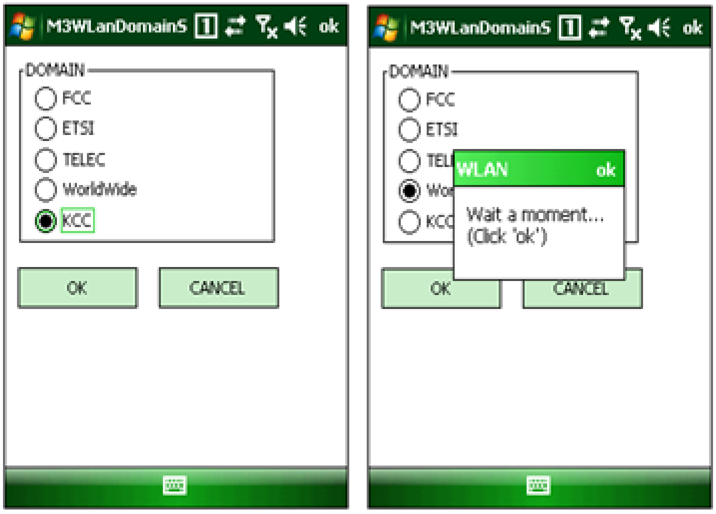
How to change the Regulatory Domain in Summit WLAN

This program enables the user to change the Regulatory Domain that is used in Summit Client Utility (SCU).

Link : Download

First, download the program then, run it to change the domain.

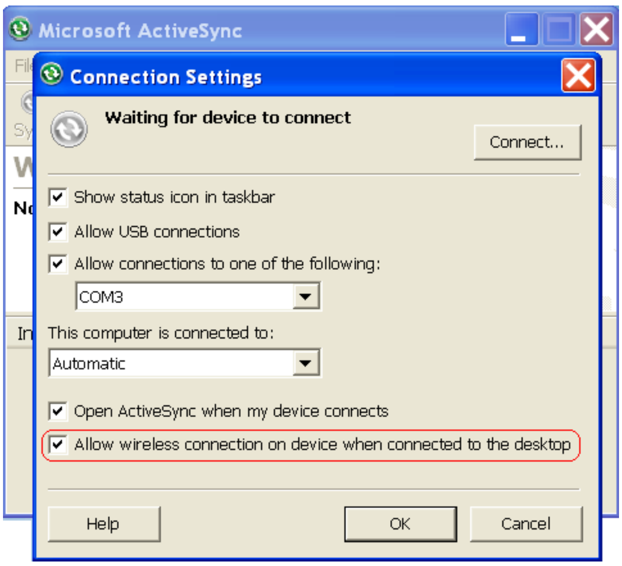
The below left screen will appear. Select appropriate domain then click ‘OK’ to confirm the change of domain.



The device must be reset to make it affective.

WLAN Connection during ActiveSync

When the PDA is connected to a PC through ActiveSync, WLAN will be disconnected automatically. Instead, it will use the internet available on the PC. If WLAN is required after ActiveSync, check the following option in the ActiveSnyc Connection Settings.



* The image may look different according to the PDA or ActiveSync version.

WLAN Roaming

Roaming between APs

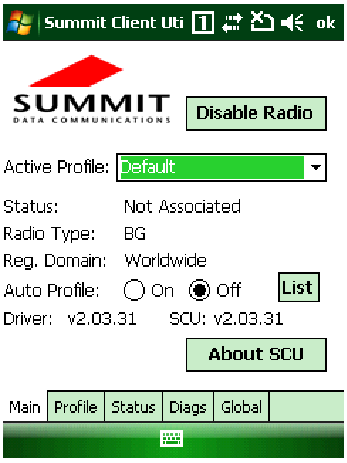
Parameters related to roaming can be changed in Global window of SCU.

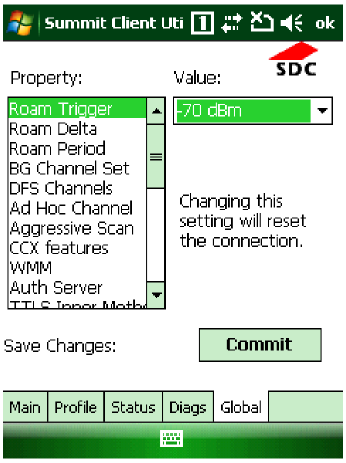
When roaming between several APs is required, WLAN must be configured accordingly to avoid interference between other channels.

Theoretically, roaming is possible if you set the same SSID, Encryption, authentication and etc for all APs. All of these can be configured using SCU.

When moving average RSSI from current AP is weaker than Roam Trigger, radio does a roam scan where it probes for an AP with a signal that is at least Roam Delta dBm stronger.

Default value is 70DB, thus set the trigger value as fit to user environment.





Note that you must set the SSID of APs equally.

Roaming error

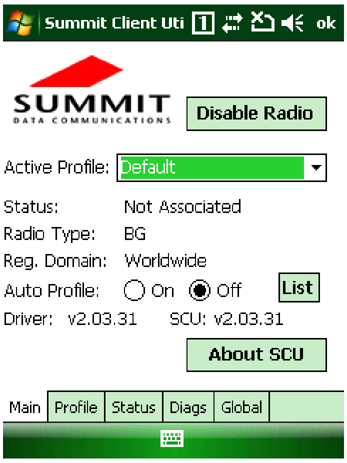
Roaming error can be fixed by upgrading to current version of SCU Driver

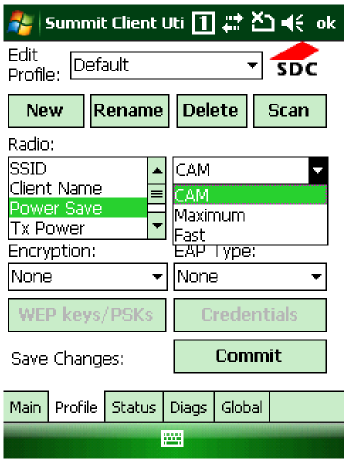
Green, SKY (3.03.15) : DownLoad

MM3(3.03.19) : Download

M3 Orange(3.03.25) : DownLoad(SCU icon need to be clicked twice as known bug.)

It may cause the unstable sensitivity, then follow below steps to improve the sensitivity.





Set the Power Save Mode to CAM (Continuously Awake Mode).

How to set different language on SCU

1. Copy the **dll** of language to Windows folder of device.

2. If you were using **SCU**, please turn **SCU** off and restart to apply new language setting.

*** Caution**

Because default setting is English, if you delete **dll** that you have installed, it will go back to English.

dll follows OS's language structure

Ex) Chinese OS -> Chinese **dll** install (O)

Chinese OS -> Japanese **dll** install (X)

DLL language pack can be downloaded from links below

Chinese →Download

Japanese →Download

French → Download

Korean → Download

M3 SKY / MM3

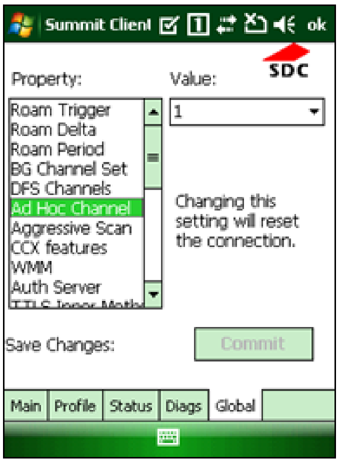
Ad-hoc Mode

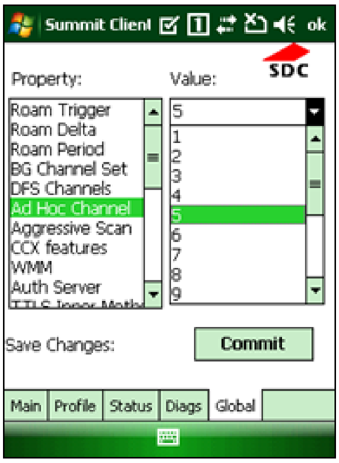
How to turn the Summit WLAN to the Ad-hoc Mode.

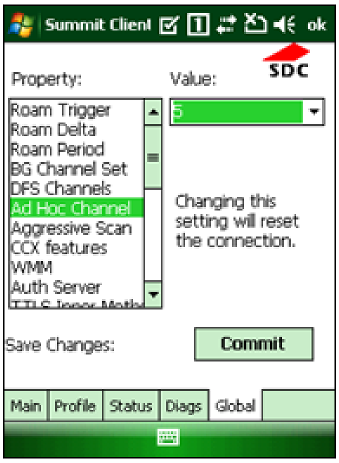
To turn the Summit WLAN to the Ad-hoc mode, move to Start\Settings\System\Wi-Fi



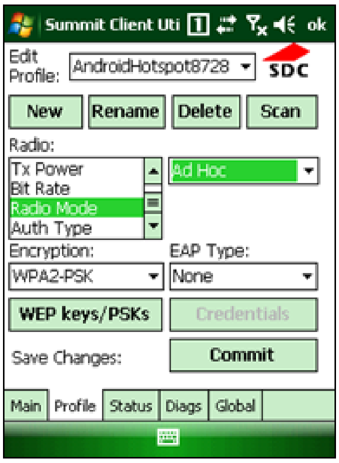
In Global section, choose 'Ad Hoc Channel' in property and select its value. Then, click 'Commit'.







Now, move to the Profile section. Change the value of Radio Mode to Ad Hoc.



WLAN re-connection after sleep mode

M3 products cut the power of WLAN module when the device enters SLEEP mode (or STANDBY mode in your terminology) regardless of the Power Save mode in Summit Client Utility (SCU).

And upon waking up, it provides the power to the module again and tries re-connecting.

In SCU, wake up refers to checking existence of packets to be sent or received. In other words, while maintaining the connection with an access point, it wakes up to check the packets.

Constantly Awake Mode (CAM) means constantly draws the maximum power to communicate with an AP. So that it can maintain the reliable connectivity.

In other power save modes, such as Maximum and Fast, only wakes up periodically to check the existence of the packet.

This is the concept of the design.

If you think this may cause problem, you can block entering sleep mode. Turing off the back light instead of entering the sleep mode may be a solution. However, this method will draw much more current from the battery and will shorten the battery durability.

15. Others

Common

Background Image

Changing Wallpaper (WinCE) / Today Screen (Windows Mobile)

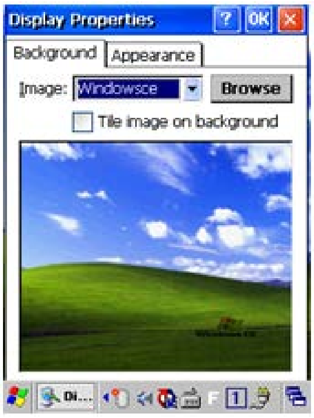
<u>WinCE</u>
In WinCE devices such as M3 GREEN and T, the background image can be changed in two ways:

1. Manually changing the image.
2. Automatically changing the image using M3.ini.

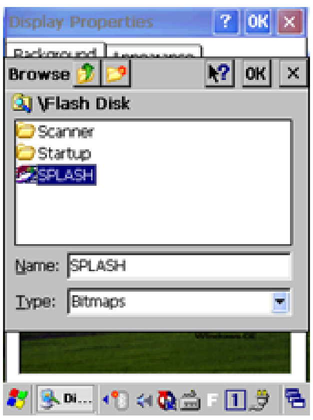
Manual Method

1. Press and hold the stylus at the desktop until the pop-up menu appears.





2. From the menu, select Properties to enter Display Properties. Then, click Browse and select the file.







3. Click OK to finish changing wallpaper.

Automatic Method

1. Open M3.ini which is located in \Flash Disk\StartUp.

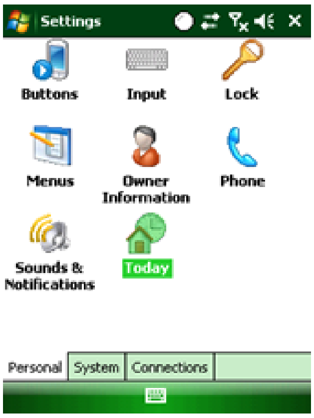
2. At [WALLPAPER] section, change Install to 1 and specify the path of the image.
For example, set as below and reset the device.
Install=1
Tile=0
Desktop=\Flash Disk\Splash.bmp

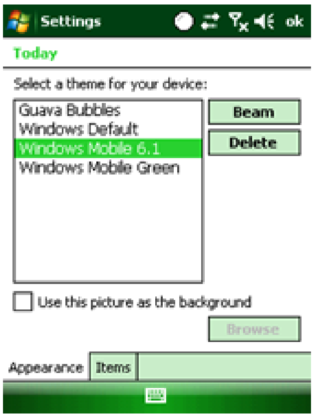
Windows Mobile

Windows Mobile devices also provide manual method and automatic method.

Manual Method

1. Go to [Start] → [Settings] then click on Today icon.





2. User can select themes or select customized picture. To use a picture as the background, check on the checkbox at the bottom of the page. Then select preferred image.







3. Then, click OK to finish the background image.

Automatic Method

In Windows Mobile, changing the screen using M3.ini is not supported. To change the background image in automatic manner, please refer to the below link:
http://social.msdn.microsoft.com/Forums/en-US/vssmartdevicesnative/thread/6bb27f46-7232-4322-9236-37b555c0369e

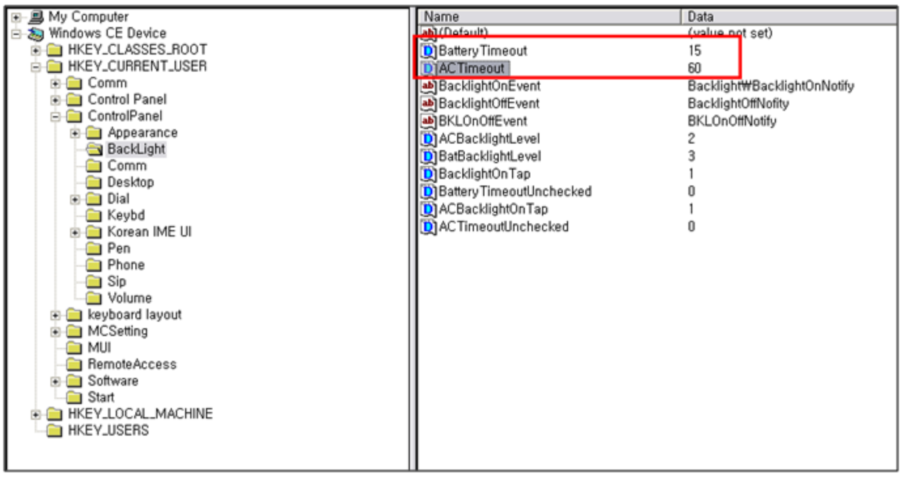
Backlight and TimeOut Control

How can I control the Backlight and TimeOut?

Backlight level and TimeOut can be controlled in registry as follow;

HKEY_CURRENT_USER\\ControlPanel\\Backlight

Set these two key values in red box to control the TimeOut.



User Power Mode(LCD, Touch and keypad disable instead of sleep mode)

M3 Green and T

Modify registry by using M3.ini as below.
Example for M3T
// Type - 0:MC6300S, 1:MC6400S, 2:MC6500S, 3:MC6100S, 4:MC6700S, 5:MC8800S
// Scanner - 0:Opticon Scanner, 1:Symbol scanner, 2: Intermec scanner, 3: HHP Scanner
// Display OFF Mode(M3Green Only) -0:Default, 1: shot(sleep), long(display off), 2: shot(display off), long(sleep)
[DEVICE_TYPE]
Type=4
Scanner=0
LCDMode=2

M3 Orange and MM3

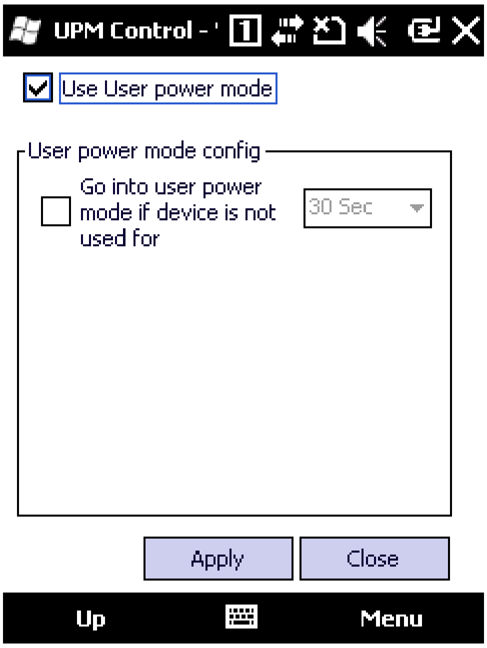
Please copy OrangeUPM and unzip on you PC firstly.(Based on English ver. OS)

i. ORANGE_UPM_20130116.zip contains mc_upm.dll, zylonite_pwrbutton.dll, zylonite_keypad_Us.dll, touch.dll, UPM_bug.exe and UPMControl.exe.

Name	Date modified	Type	Size
Driver	1/21/2013 2:04 PM	File folder	
UPM	1/21/2013 2:04 PM	File folder	
UPM_Patch.exe	1/16/2013 1:26 PM	Application	5 KB
UPMControl.exe	1/4/2013 4:09 PM	Application	7 KB

ii. Please copy the All files to Flash Disk folder and Run UPM_Patch.exe then 'Please reset' message showed up, perform the soft-reset.

iii. Run the UPMControl.exe file on the device.

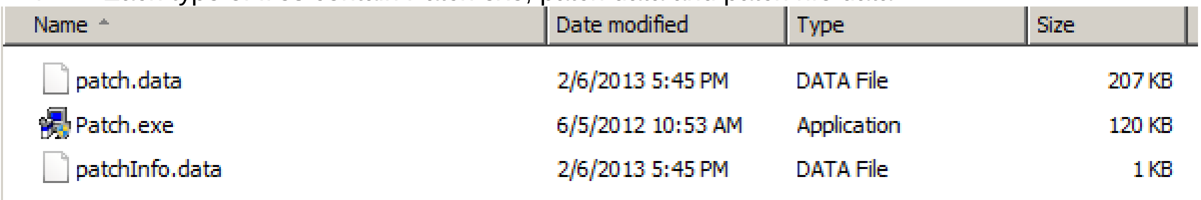


iv. Depending on the OS type of language, the 'zylonite_keypad_xx.dll' file needs to be replaced. (Language pack)
This file could be copied on Windows XP based.
If having any trouble with this, please request on itc page.

M3 SKY

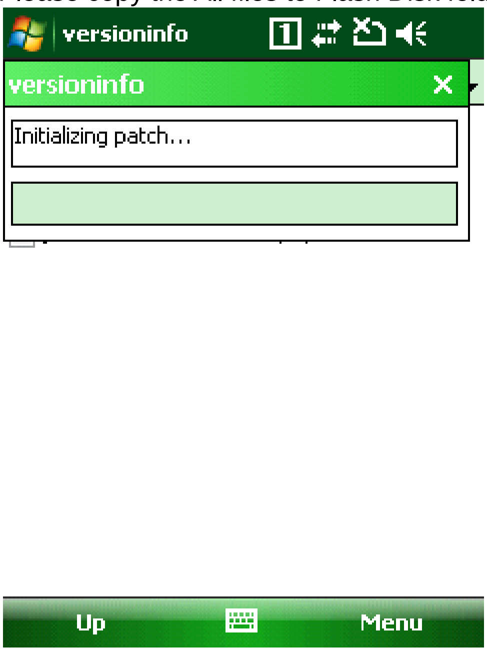
Please copy 7100S_Summit, 7500S_Summit and unzip on you PC firstly.

i. Each type of files contain Patch.exe, patch.data and patchInfo.data.



Name	Date modified	Type	Size
patch.data	2/6/2013 5:45 PM	DATA File	207 KB
Patch.exe	6/5/2012 10:53 AM	Application	120 KB
patchInfo.data	2/6/2013 5:45 PM	DATA File	1 KB

ii. Please copy the All files to Flash Disk folder and Run Patch.exe then below process activated.



iii. Soft-reset is performed the below registry value's created automatically.

[HKEY_LOCAL_MACHINE₩Software₩Mobilecompia] **"EnableUPM"=dword:0**
Please change the value as '1'.

MM3

Please copy MM3UPM unzip on you PC firstly.

i. UPM_Patch_MM3.zip contains LtkUnlock.exe, rapienable.exe, M3Mobile UPM Patch.exe and UPMControl.exe as below.

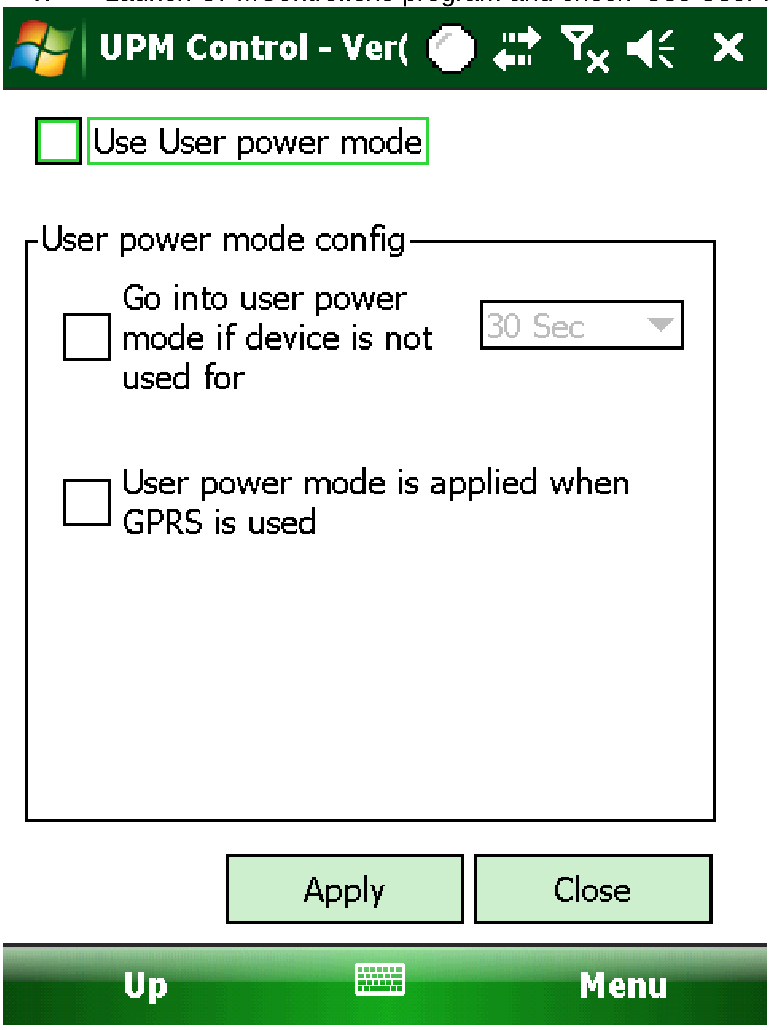
Name	Date modified	Type	Size
LtkUnlock.exe	1/25/2013 9:58 AM	Application	13 KB
M3Mobile UPM Patch.cab	3/26/2013 8:06 PM	ALZip CAB File	233 KB
rapienable.exe	3/18/2013 9:49 PM	Application	5 KB
UPMControl.exe	3/21/2013 3:16 PM	Application	7 KB

ii. Run LtkUnlock.exe then question message shown up, select 'OK'.

iii. Run rapienable.exe, nothing happens.

iv. Install M3Mobile UPM Patch.cab then soft-reset triggered automatically.

v. Launch UPMControl.exe program and check 'Use User Power Mode' then click apply.



➔ Close the program, UPM model already applied.

➔ This affects below registry value.

[HKEY_LOCAL_MACHINE₩Software₩Mobilecompia₩CustomPowerMode] "UserIdleModeOn" 0(disable)/ 1(enable).

M3 Reset / Boot Glossary

Soft Reset / Warm Boot

When an error occurs while running the device, sometimes it requires restart of the system. Soft reset / Warm boot is a way of restarting the system without powering off the device. Soft reset / Warm boot does not delete stored data.

Hard Reset / Cold Boot

Hard reset / Cold boot is a way of restarting the system after the device is completely turned off. Since this operation disconnects the power to the device, everything in RAM will be erased. Most of devices using Windows CE use RAM to store programs and data. Hence, hard reset / cold boot will remove everything except data stored in Flash disk. In other words, the device will return to its default settings. However, in a few devices which use ROM hive type Windows CE or Windows Mobile, most of data are stored in ROM. Hence, hard reset / cold boot will not affect the stored data in such devices.

Clean Boot

Clean boot is used to delete everything, in RAM and ROM, except data stored in Flash disk in a few windows CE and windows mobile devices which use ROM hive method.

*When soft reset does not fix the problem then, hard reset (in RAM type devices) or clean boot (in ROM hive type devices) may be performed to troubleshoot. Everything stored in the device except in Flash disk will be erased and the device will return to its default settings. **M3 refers this operation of resetting the device to its default state, to "hard reset" to help understanding of customers and to avoid any inconvenience may caused by using two different terms which mean basically the same operation.**

Factory Reset

Factory reset will remove everything in the device including the data stored in Flash disk and will return to its factory status.

Long Reset

When the device does not power up even the battery is charged; reset button is pushed for more than 4 seconds to physically shake the reset pin to wake up the device. In M3 RED, GREEN, T and POS (CE devices except M3 BLACK and EDU), long reset cuts the power to RAM which causes hard reset of the device. In M3 SKY and MM3 (WM devices), long reset has the same effect as the soft reset.

Clean Hive

Clean Hive is a feature only included in M3 BLACK. This feature is used to initialize only the registry. This can be launched by long reset or from boot menu.

M3 Product Summary

	OS	Soft Reset	Hard Reset / Clean Boot	Factory Reset	Long Reset
M3 RED	CE (RAM Type)	O	O	X	Hard
M3 GREEN	CE (RAM Type)	O	O	X	Hard
M3 SKY	WM	O	O	O	Soft
M3 ORANGE	WM	O	O	O	Soft

M3 T	CE (ROM HiveType)	O	O	O	Clean Hive
MM3	WM	O	O	O	Soft
M3 POS	CE (ROM HiveType)	O	O	O	Clean Hive
M3 BLACK	CE (ROM HiveType)	O	O	O	Clean Hive
M3 SMART	WM	O	O	O	Soft
M3 SMART	CE (ROM HiveType)	O	O	O	Clean Hive

How to:

Soft Reset

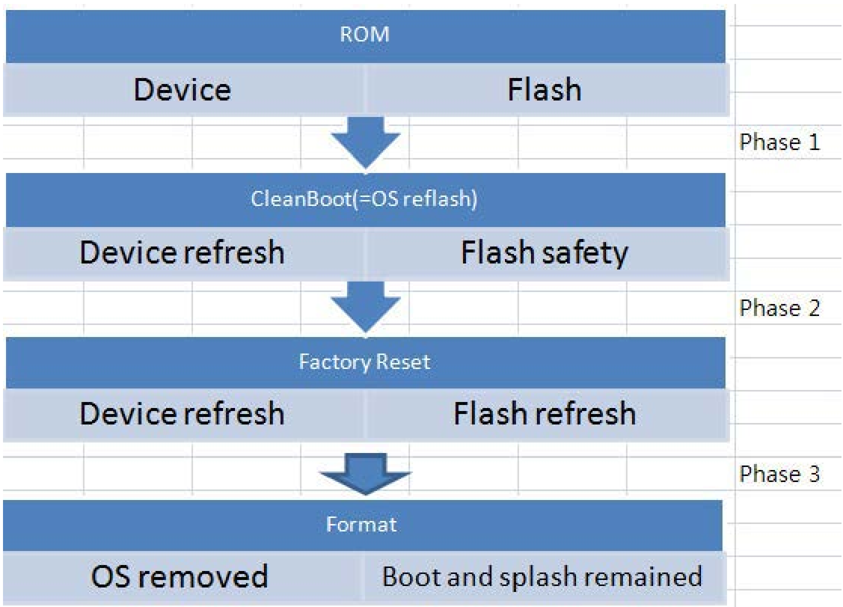
Gently press the reset button on the device.

Hard Reset

In RAM type CE device (RED, GREEN, T, and POS): Push the reset button for more than 4 seconds to turn off the device and push the reset button again to turn on the device.

Clean Boot

In ROM Hive type CE and WM devices (SKY, MM3, M3 Orange, M3 Smart and BLACK): Can choose "Clean Boot" from boot menu.



Factory Reset

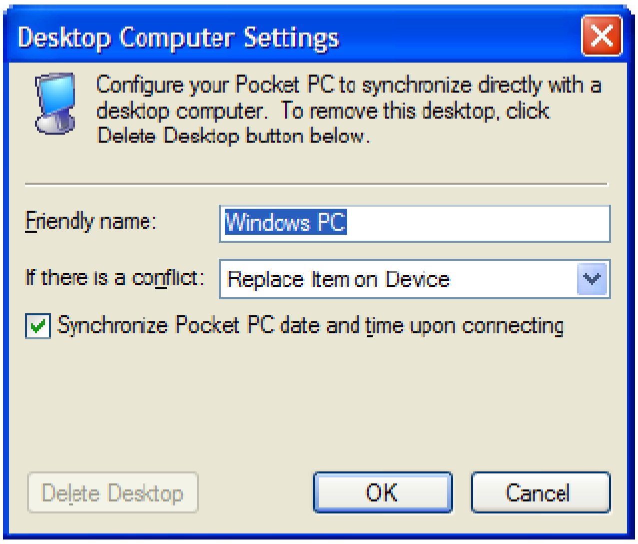
Can choose "Factory Reset" from *boot menu.

*To launch boot menu, please refer to How to launch Boot Menu .

Setting date and time on the PDA automatically

HSDPA units with a 3G(NEXT G) SIM Card will automatically get date and time and TIMEZONE from the Provider Network. Also setting date and time can be done when you connect via ActiveSync.

1. Connect your device to your PC and wait until ActiveSync is finished syncing.
2. Open the ActiveSync window on your PC and go to the Tools ->Options screen.
3. Make sure Windows PC is highlighted; it's the first item in the Options list. Then, click Settings to go to the PC Settings screen.



4. Check or uncheck the box labeled "Synchronize Pocket PC date and time upon is connecting."
5. Click OK.

Note: This is not available when connected as a guest.